

ANNUAL REPORTS  
OF THE  
SUPERINTENDENTS  
Yellowstone National Park














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REPORT

OF THE

ACTING SUPERINTENDENT

OF THE

YELLOWSTONE NATIONAL PARK

TO THE

SECRETARY OF THE INTERIOR.

356

1896.

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R E P O R T  
OF THE  
ACTING SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK.

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YELLOWSTONE NATIONAL PARK,  
OFFICE OF THE SUPERINTENDENT,  
*Mammoth Hot Springs, Wyo., August 11, 1896.*

SIR: Complying with your request of the 2d of July, I submit a report of the operations in the Yellowstone National Park during the fiscal year ended June 30, 1896.

Since my fifth annual report, made under date of July 25, 1895, there have been no changes in the accommodations offered by the park association. The hotel at the Canyon was insecure as to its foundation and settled unequally in different parts, which caused the plastering to loosen and fall off. In the early autumn the foundation was replaced, and this spring the building was entirely replastered and made more presentable; it is now one of the best hotels in the park.

Owing to the financial embarrassment of the Northern Pacific Railroad, which is a large stockholder in the Park Association, there have been no extensive improvements made. The lunch station at Norris should be replaced by a structure capable of affording accommodations for a few guests. A good, substantial hotel should be erected at the Upper Geyser Basin. A hotel is also needed at the Thumb of the Lake, and owing to the considerable travel down Snake River it should have a capacity of twenty or thirty guests. I am led to believe, from conversation with officers of the park association and of the Northern Pacific Railroad, that there is a prospect of better accommodations at all of these places in the near future.

The educative influence of a tour of the park is such as to make it desirable that all should enjoy it. Its distance from the centers of population, of course, makes this impossible; it requires too much time and too large an expenditure of money to reach this spot. But all those who can afford to reach the park should be enabled to make the complete tour, and at a minimum cost. The poorer portion of the public is now satisfactorily looked after by parties who conduct camping tours. There always has been and always will be great difficulty in properly supervising this industry. The conductors are careless about cleaning up their abandoned camp grounds; they are careless about extinguishing their fires, and as a rule they have no sentimental regard for the preservation of the wonders and objects of beauty in the park. The

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complete and rigid system of registration of the conductors of licensed transportation and of those coming with their own hired vehicles has enabled me to reduce the number of violations of the regulations to a minimum. Those who can afford to make the tour by coach and stop at the hotels have their names on the hotel registers, and supervision of them is much more easy.

A license has been granted Mr. W. W. Wylie, of Bozeman, Mont., to conduct parties through the park and to establish four permanent camps. He has placed signs at the roadside directing travelers to his tents, and he has erected some wooden buildings or temporary structures at his camps. The great objection to this form of business is the establishment of unsightly, vermin-breeding shanties near the roadside. In 1891 it was determined that the business of keeping hotels, and that of the Yellowstone Park Transportation Company, should *not* be done by a single corporation. The license to Mr. Wylie, however, has returned to old methods in the only way in which they were objectionable. I believe that the conduct of all the interests in the park should be placed under a single management. With a schedule of prices held at a minimum and accommodations the best possible, no charge of monopoly could justly be made.

Very naturally the Yellowstone Park Transportation Company desires to hurry tourists through on a regular schedule time, for they get the same amount of money as when they grant stop-over privileges. On the contrary, the hotel people (the Yellowstone Park Association) wish their guests to remain at each place as long as they are disposed. This leads to a direct diversity of interests, which can only be avoided by having the management of both industries in the same hands. If this were authorized by the Department, and the best possible service required at the lowest price consistent with a reasonable profit for money invested, it would result in the greatest satisfaction and comfort to the traveling public. The boat on the Lake should also be included in this scheme of consolidation, and the one price for the tour give an option of going from the Thumb to the Lake Hotel either by land or water.

Last winter was not what I should call severe, though a great deal of snow fell. March was very stormy and the spring was backward. Early in May I reported that the season was well advanced. I returned to this point, after a leave of absence, on the 2d of that month, and it is within my own knowledge that snow fell every day of the month to include the 21st.

I sent out a working party on May 15 to open roads over the circuit. They did not reach Norris for ten days, and were obliged to shovel snow more than one half of the distance. It was June 3 before the roads were opened to the Canyon, and the road over the Divide between the Lake and Upper Basin was not shoveled out before the 16th, and not used by tourists until after the 20th.

This season opened with promise of heavy travel, but the promise has not been realized. The only reasonable cause is the financial depression and the disturbances of a political campaign. The number of tourists through the park during the year is given in the table which follows, also the number carried by licensed transportation the year previous.



*Travel in the park, season of 1895.*

| Month.          | Camping parties. |         |         |        | Licensed transportation. |         |         |
|-----------------|------------------|---------|---------|--------|--------------------------|---------|---------|
|                 | Persons.         | Wagons. | Horses. | Mules. | Persons.                 | Wagons. | Horses. |
| June .....      | 338              | 117     | 463     | 6      | 12                       | 5       | 12      |
| July .....      | 784              | 247     | 724     | 6      | 85                       | 21      | 72      |
| August .....    | 1,122            | 313     | 1,063   | 11     | 168                      | 42      | 126     |
| September ..... | 316              | 86      | 316     | 10     | 53                       | 17      | 33      |
| October .....   | 27               | 9       | 54      | .....  | 18                       | 6       | 12      |
| November .....  | 1                | 1       | 2       | .....  | .....                    | .....   | .....   |
| Total .....     | 2,588            | 773     | 2,622   | 33     | 336                      | 91      | 255     |

*Registered at hotels.*

|                 |       |
|-----------------|-------|
| June .....      | 426   |
| July .....      | 956   |
| August .....    | 1,088 |
| September ..... | 396   |
| Total .....     | 2,866 |

*Travel in the park, season of 1894.*

|                               | May. | June. | July. | Aug. | Sept. | Oct.  | Nov.  | Total. |
|-------------------------------|------|-------|-------|------|-------|-------|-------|--------|
| Camping parties .....         | 3    | 80    | 276   | 707  | 285   | 12    | 8     | 1,371  |
| Licensed transportation ..... |      | 18    | 10    | 59   | 15    | ..... | ..... | 102    |
| Total .....                   |      |       |       |      |       |       |       | 1,473  |

The increase in the volume of travel is certainly very small. This year travel has been less than it was last season. This can not all be charged to the causes above mentioned, for the European steamers are loaded with Americans who go to spend their summers abroad. I believe that the greater number of the American people are not aware of what there is to be seen here, and with what ease and comfort a tour can be made. Of course the distances to be traveled in the park and the long railroad journey necessary to reach here are great drawbacks to many, but I believe a large number of Americans would come here if they were acquainted with what may be seen and the ease with which a tour within the park can be made. An indication of the estimation in which the park is held is found in the increase in the number of people who make a prolonged stay here. This year a much larger percentage of tourists have remained for an extended stay than ever before.

## LEASES.

The leases mentioned in my last report as having been promised to Mrs. Ash and Ole A. Anderson have been duly received.

Mrs. Ash has erected a neat and suitable cottage upon the site granted to her, and she keeps a stock of notions and supplies much needed by tourists. As soon as this was occupied I caused the old log buildings she had used as a post-office to be torn down, and the locality to the north of the plain is now free of them.

Ole A. Anderson has his building nearly completed. It is a neat looking cottage, the equal of any now on the plain on which the hotel stands.

The trouble regarding licensed transportation, which was kept down last year, has broken out again by the demands of several of the objectionable characters for the renewal of their licenses. I recommended

that the Department should this year limit the number of licenses to the needs of the traveling public, but with the granting of a license to one of the parties this rule was broken, and the desires of all who wished to be allowed to make a living at this business had to be recognized.

A letter just received from D. A. Curry, of Ogden, Utah, who conducts this kind of transportation, contains the statement that he had been advised by one of the officers of the Union Pacific Railroad not to pay the license fee. He says he shall do so under protest, and intimates that the license required is in the interest of the regular hotel and transportation companies, and against the rights and interests of campers. The last party taken through under his guidance registered several complaints against him. There were complaints of unfulfilled promises, of unnecessary delays, and of insufficient food and bad cooking. In order to properly regulate this branch of the business I suggest that Mr. Curry and those who do the business for him be prevented from entering upon it another year.

Up to the present date this year there have been fewer travelers with the licensed teams than at any time during the last four years. This may be accounted for by the fact that the class of people who come in this way have been more embarrassed by the hard times than those who can afford the regular tour, stopping at the hotels.

For Bassett Brothers I have given a license which permits them to take tourists to the hotels, and they are the only ones who have such a one.

By the vigorous disapproval of the Secretary of the Interior all of the bills for the segregation and dismemberment of the park have been killed. These various schemes come up at each successive session of Congress, and some of them may ultimately succeed. It is to be hoped, however, that the good sense of the American people will forever protect this "pleasuring ground" of the nation from the greed of those who would devote it to private gain.

At my request the Secretary of War directed an officer of the Engineer Corps, United States Army, to determine and mark the boundaries of the park. I have for years regarded this as the most important work yet to be accomplished. In obedience to this order, Lieutenant Bromwell reported to me on July 1, and is now engaged in finding and marking the east and south boundary lines. Before he stops work in the autumn I shall have the west boundary line found and the points marked by enduring monuments. I hope in time to have all of the boundaries so marked that they may be recognized wherever crossed.

The correct latitude and longitude of a point near the Lake has been given to me from the Coast Survey, and I am having them carved upon the monument there. I have had a monument erected to mark the east point of the Yellowstone Lake, its south point, and the west point of Shoshone Lake, as well as the initial point of each of the four boundaries of the park. After the season closes I shall have the correct altitude taken and recorded on each of the mileposts, and also upon the monument near the lake.

#### PROTECTION OF FORESTS.

Last year was the driest in my experience in the park. Early in July all vegetation was so burned that even the grass could be set on fire with a match. I was in a state of great uneasiness until after the first snowfall in September. That there was no serious destruction of the forests was due, I am confident, to the constant vigilance of the



patrols. Many of them discovered campers careless about extinguishing their fires. A few parties were arrested and brought before the United States commissioner and tried and sentenced; a number of others were cautioned, and the effect was magical. More than one hundred smoldering fires were extinguished, any one of which might have caused much damage. The United States Forestry Commission visited the park recently, and at the request of the chairman I drew up for them a résumé of the means taken by me for the protection of our extensive forests from conflagrations. This season has been so moist that we have as yet had no trouble from this cause, but I shall not feel safe until the ground is again covered with snow.

#### OUTPOSTS.

I have no change to report in the number or location of my outposts. The difficult work of these men on stations has been done for the most part to my entire satisfaction.

By the opening of the road down Snake River in August last I was able for the first time to send a wagon with supplies to the squad stationed there. Up to that date everything had to be carried on the backs of mules. The hut they occupied was built of logs, without a floor. I am happy that I am now able to make them more comfortable.

#### MILITARY POST.

Notwithstanding my urgent request, no improvement has been made in the military post here. At the present time I am asking for an appropriation for one set of new barracks and one stable at the new post. The cost will not be very great, and the troops here are so constantly in the field during the summer that they deserve good and comfortable quarters for the winter. The troop that is in camp during the tourist season at the Lower Geyser Basin returns here for quarters in October. We are obliged to place it in the old barracks, which is so far distant from the balance of the troops that it is difficult to properly supervise it. I trust your influence will be exerted to secure an appropriation for the needed extension of this post.

#### ROADS.

Since my last report much progress has been made in the construction of new roads, as well as in repairs of those already in existence. Besides putting existing roads in a thorough state of repair at the beginning of the season, I caused surveys to be made as follows:

First. For a new road from the last crossing of the Gibbon to the Firehole, and up the Firehole to the mouth of the Nez Perce.

Second. Down the Firehole to the mouth of the Gibbon, thence down the Madison to Riverside.

Third. From the Canyon Hotel to Yanceys, over Mount Washburne.

Fourth. From Lewis Lake down the Snake River to the south boundary of the Timber Reserve.

Fifth. From the east boundary of the park near Cooke City to Soda Butte.

At the present time, the first of these roads is entirely completed and is in excellent condition, and a vast improvement over the one previously used.

The second has been fully constructed to the mouth of the Gibbon. A good bridge has been built there, and the timber has been grubbed

out as far as Riverside. The only crossing of the Madison has been bridged, and before work is suspended for the fall 5 miles of the road will have been graded.

Of the third, 9 miles have been grubbed. This includes nearly all of the timber along the route. I expect to have from 5 to 10 miles of this road graded before the close of the present season.

The fourth is completely grubbed. The lower crossing of the Snake River is now being bridged, and by the close of the season I shall have 5 miles of the southern end of the road graded and in good condition. It is already easily passable, and will afford no difficulties whatever after the completion of the bridge. This bridge is absolutely necessary, because Snake River is not usually fordable at this place before the middle of July.

The fifth of these sections has been graded and grubbed for 4 miles, and by the end of the season I hope to have 6 miles of it in use.

The volume of travel by camping parties from points in Wyoming is rapidly increasing. The old road from Cooke City to this point was the worst in the park. Every mile of road constructed here is immediately available for travel. At the present time the condition of the three approaches to the park is: that from the west nearly completed and in very good condition; that from the south open and good, but will require considerable work to finish; that from the east in advanced state, and will be graded as far as Soda Butte before work ceases there. Later in the season I shall have surveys made and definite location established between Yanceys and this point.

My repair crews have done several jobs of new work, resulting in lessening the grades at the very steep pitches on the old roads. This policy will be continued until all of the difficult places are removed. Very many of the old bridges had become insecure, and many of the old culverts were stopped up and failed to perform their function. I have had these replaced over the entire system of roads now in use.

The area of the park is larger than the State of Connecticut. For the improvement and protection of this large domain but \$30,000 per year has been appropriated for the several years past. For this season \$35,000 has been given. With this very inadequate sum I am expected to keep the existing roads in best repair, to vigorously push the work of construction, to make extensive surveys, and to protect the park from poachers and vandals. There is not an impoverished community occupying a similar area within the limits of the United States that does not yearly devote more money to the single work of road repairs. By the expenditure of \$100,000 per year for two years the roads as planned could be completed, all of the approaches to the park could be made good, and all of the prominent points of interest off the regular roads could be made accessible by roads suitable for light vehicles. As soon as this is accomplished every mile of the main road in the park should be surfaced with stone, which would entirely eliminate the discomforts of travel due to mud and dust. The rock which is found everywhere in the park is sufficiently hard and durable for this purpose, as there is but little heavy traffic and the season is very short. I believe that this could be accomplished at the rate of not exceeding \$1,000 per mile, or, say, \$200,000 for the entire park. With the roads in this condition, all demand for the "trolley" or other "electric" line would cease, and the traveling public would be as thoroughly accommodated as though the tour were made by car.

I have in contemplation the establishment of a bridge across the Yellowstone River above the Upper Falls. The length of span has been



determined, and an architect is now engaged in making the plans. If the expenditure should not prove to be too great, I shall endeavor to have a sightly steel or iron structure erected, over which tourists may pass to view the canyon from the eastern bank.

#### HOTELS.

For the last five years the management of the hotels of the Yellowstone Park Association has been particularly satisfactory, and each year there is a noticeable improvement. In every part they are thoroughly neat and clean; the service is in every respect excellent. I have heard no complaints of any kind about the way they are conducted, while they are the subject of almost universal praise. To Mr. J. H. Dean, the very efficient manager, every credit is due. It is much to be regretted that they are each year run to a considerable loss to the company. That they furnish such accommodations as are required by the better class of tourists, at the rates charged at watering places near the larger cities, is a matter of much surprise to most visitors. Could the volume of travel be doubled they would be remunerative, and it is hoped that this condition will soon arrive. I do not think that it is desirable that the accommodations should be less, or that the prices should be lowered, yet it seems unlikely that any corporation will continue to indefinitely conduct a losing business.

In addition to the hotels previously mentioned as being needed, one must be put near Tower Falls, or at Yanceys, as soon as the road over Mount Washburne is completed. Yanceys is not kept at a standard which would attract guests; it is where very many of the tourists who stop over a few days at this point would like to visit.

I believe more people would view the beauties of Soda Butte Canyon if accommodations were provided for them at Soda Butte station. I also believe that a small hotel, with accommodations for fifteen or twenty guests, near Snake River would prove profitable to the keeper. These hotels would depend for patronage almost entirely on the people who desire to spend a large part of the summer in the park rather than hasten through it, as do the six-days tourists. Each year, as various new points near the route become accessible, tourists remain longer at each place in order to visit them.

I shall endeavor, before the close of the season, to make a road down the canyon 5 or 6 miles below Inspiration Point, and thus open up a beautiful bit of scenery at present enjoyed by those only who can make the trip on horseback. This will prompt many people to remain an extra day at the Canyon Hotel.

#### TRANSPORTATION.

In every respect the transportation is conducted the same as last year. Horses, harness, and vehicles are the best procurable in the country. They are kept clean and in thorough repair and running order. There is no overcrowding; there are no avoidable discomforts. An occasional complaint is made of the lack of stop over privileges. The one of most serious nature was made to the Department direct and has been the subject of a special report. I believe that the business is conducted at a profit, and it is the only enterprise in the park that has so far reaped any material reward. It is only natural that the company should object to granting excessive stop-overs, as it materially increases expenses. In every other respect I have nothing but praise of the company and its management.



## YELLOWSTONE LAKE BOAT COMPANY.

The boat company is conducted under the same management and by the same parties as last year. The trip is most satisfactory to all who make it, and a very large percentage of tourists use it on their tour. The usual complaint is that parties are obliged to surrender their seat in the stage and to pay extra for the ride on the boat.

Last autumn Mr. Waters, the manager, applied for authority to construct small landing places at several points on the shore of the Lake,—one on Dot Island and one for “ways” near the site of his present landing in front of the hotel. All of these have had my approval.

Mr. Waters has put on Dot Island a few bison, mountain sheep, and elk. Upon each trip he lands the passengers at this point in order that they may see the game, and I believe that it adds not a little to their enjoyment. All these animals were obtained outside the park and shipped into it by Mr. Waters.

## FISH.

Since my last report but one plant of fish has been made. In July last year I received word from the United States Fish Commissioner that 1,000 Rainbow trout would be sent me within sixty days. They finally came in December, at a time when the thermometer was nearly zero and when there was 4 to 6 feet of snow on the road over which they had to be transported. I knew the Rainbow trout to be of a kind that sought deep water, so I had them taken to De Lacy Creek, where I knew they would seek the water of Shoshone Lake. I have had no report of them as yet, but from the plant of lake trout sent here in 1889–90, and of brook trout put in Shoshone Creek two years ago, we find there an abundant number.

Until last week no wagon had ever been driven to the shores of this lake, but now that it is accessible I predict it will become one of the most popular resorts that is not on the regular tourist route. The driveway was opened from a point about 5 miles from the Thumb, on the Snake River road, to the outlet of the lake, and I doubt not it will soon be much used by enthusiastic fishermen.

Although thorough search has been made for the black bass planted last July, none have been found. I have no doubt they are thriving, but the 500 sent me would make a small showing in the four large lakes into which they were distributed. I have every hope that they will yet be found.

In all of the streams heretofore stocked I find the fish have multiplied beyond conception. These streams have so many branches leading into canyons far from the line of travel that protective measures are not thought to be necessary. I would, however, suggest that a regulation be made establishing the minimum length for fish that may be taken; 5 or 6 inches would seem to be a proper minimum.

## MINOR REGULATIONS.

In the course of five and one-half years' service here the necessity for the publication of a set of minor regulations has become very apparent to me. These regulations need not have the force of those already in existence, nor need they be made subject for judicial cognizance before the Commissioner, but they should contain advice to campers on the subject of extinguishment of their fires, of cleaning up their abandoned camps, cautions about too free use of the mineral water in the park for drinking purposes, directions to make their

camps at such a distance from the road that the tents and other articles about them would not frighten horses, and very many other items useful for them to know and tending to the orderly management and conduct in the park. I shall, as these things occur to me, jot them down, and in time submit a copy of them for your approval.

#### CLAIMS FOR IMPROVEMENTS IN THE PARK.

Soon after my arrival here in the spring of 1891 I was called upon to make a report regarding the claims of citizens for improvements made prior to the act of dedication. In this report I carefully considered the claims of McCartney, Baronett, and McGuirk. In each Congress since that time a bill has been introduced to reimburse these men for improvements made and taken from them by order of the Government. During the present Congress this bill has passed the Senate and has had a favorable report in the House of Representatives. It is much to be hoped that this measure of relief may become a law, and that these long overdue claims may be settled. The bill as it stands awards Mr. Baronett \$5,000, Mr. McCartney \$4,000, and Mr. McGuirk \$1,000. These sums are equitable and just, and payment of them should not be longer delayed. A proposition has been made to pay the Baronett claim out of the current appropriation for "improvement and protection" of the park, but to this I could not assent, for the reason that the old bridge is now in a state of decay and would not under any circumstances be considered as a work of "improvement." The claim for it and for its use for the last twenty-five years is, however, a just one.

#### POACHING.

One year ago the Secretary of War authorized the expenditure of \$2,000 for the protection of the park. I regarded it as available for the protection of the game from the vandalism of poachers. I at once organized three parties for operations against the merciless freebooters of the Henrys Lake country. One party consisted of two men acting as detectives among the suspected element; another party, also of two men, operated near the Idaho line, and often outside the park: the third party was under the personal charge of Lieutenant Lindsley. The ground covered by the buffalo in their summer range was most thoroughly gone over. Carcasses, or at least a portion of about ten buffaloes were found, all of which had been killed within three or four months. One party of poachers was encountered, but they escaped by flight in the darkness. Unfortunately they were not discovered until near dusk and the pursuit had to be soon discontinued. Soon after this I obtained information that certain parties from that region were offering buffalo scalps for sale in the city of Butte. I had a careful watch kept, and finally arrested James Courtenay, who had in his possession the scalps of four buffaloes. He was brought to this place and had his trial before the United States commissioner. Possession of the trophies was *prima facie* evidence of his guilt, but no one saw the killing done, and hence no one could swear positively that it was done within the limits of the park. He testified for himself, and his brother, his father-in-law, and a partner in crime testified most positively that the killing was done in Idaho, and without the park. With this positive but untruthful evidence before him the commissioner felt obliged to acquit, but there is not, nor has there been, any doubt in my mind of Courtenay's guilt. The trial, however, proved so expensive to the marauders that its effect upon his neighbors has been excellent.



Later in the season word came to me that several of the citizens of Livingston and Gardiner were killing game near the north line of the park. After a survey of the situation four arrests were made. The principal defense made by these parties was that the killing was done in the 2-mile strip north of the Wyoming line, over which they claimed the United States had no jurisdiction. The decision of the Attorney-General, which was obtained some years since through your office, was decisive on that point. The parties, however, were treated most leniently and let off with a fine of \$50 each. The effect of these trials and convictions has been most salutary, and depredations will hereafter be less numerous. Poachers will be more cautious in the future, as they are well aware that they will not again escape with so slight a punishment.

I am now considering and putting into execution plans for the protection of the game the present year, but the trouble has been much lessened by these convictions. For the first time since my residence here the authorities of Wyoming and Montana seem desirous of cooperation in game protection. I gladly lend my aid, and will do all in my power to prevent the promiscuous slaughter which has come so near extinguishing the American big game.

In Idaho nothing has as yet been done, and the authorities seem inclined to encourage this form of lawlessness rather than to aid in its repression.

#### GAME.

The game continues to increase, and all varieties, excepting the bison, are found in great numbers. During the spring months the elk are found in their several winter ranges in herds of thousands. Deer wander through the post, going within a few feet of the buildings and often as near to the men, who are about their work. The usual herds of mountain sheep and antelope have wintered on Mount Everts and show great increase of number. The carnivora have also increased and have proved objects of interest to tourists.

In the winter coyotes hereabout become so numerous that I at last felt obliged to order the destruction of some of them, but I confined this duty to the authorized scout. I find the young of all of the ruminants especially numerous and in good condition, so that I expect a large increase for the year. I made many collections during the year for the National Zoological Park in Washington, but they were mostly of birds. I have ready now for shipment in the autumn 6 elk, 6 antelope, 4 beaver, and 2 black bear cubs. I will doubtless be able to have enough more by November to fill a car, and thus reduce the relative cost of transportation.

The corral built last fall for the purpose of inclosing a portion of the buffalo herd was visited many times during January and February by a small herd of about eight, and also by many elk. It was intended to shut the herd up and retain them, but it was not done because it was hoped that more would eventually winter there. They did not do so, however, and in course of time this small herd wandered away and was not captured. For some reason the main herd did not winter in Hayden Valley as usual, and on the extensive scouts made by my order during the winter months only about a dozen in all were seen. They were scattered singly and in small bunches over a large portion of the park. Some of them were in positions where they would most likely die before the winter was over. Within the last month I have had several parties out looking for the remnant of the band. One party reported a small bunch of 3 in one place, and of 12 in another.



A second party reported a bunch of 3 in a valley in a distant part of the park, and tracks of a herd of 8 or 9 more, but this herd was not seen. From reports received I feel confident that the majority wintered in the extreme southwest corner of the park, in the Falls River meadows; and I also feel sure that there are now a considerable number east of the Yellowstone River. Taken altogether there is fair certainty of the existence of 25 or 30, and possibly of 50. Whether or not I shall be able to save them remains a doubtful problem. The forces of nature and the hands of man are alike against them, and they seem to be struggling against an almost certain fate.

#### GEYSERS.

I have the guards keep a table of geyser eruptions. Of course this is not complete, as they take no account of eruptions during the hours of darkness. I have appended it to this report as principally useful in showing that there is very little regularity of period among any of them except Old Faithful.

#### EXTRA PAY FOR THE ACTING SUPERINTENDENT.

As it is not probable that I shall remain here long enough to receive benefit from next year's appropriations, I do not consider it indelicate to recommend that an extra allowance be made to the superintendent of the park. This principle was recognized many years ago in the extra rations given to post commanders, and especially at certain posts where the burden of entertaining was great. More recently it has been recognized by extra rank, pay, or allowances given to certain officers stationed at West Point, the Military Prison, and at the Carlisle Indian School. Last year the Adjutant-General of the Army made such a recommendation in his annual report, but no further notice was taken of it. The superintendent here has letters of introduction sent him by the hundreds, and the smallest measure of hospitality requires the expenditure of his entire pay in very meager entertaining. There is no station in the Army where so much is expected of an officer, and I trust you will call attention to the necessity for some relief.

#### RECOMMENDATIONS.

First. I recommend an appropriation of at least \$100,000 a year until the road system is completed.

Second. The continuance of this appropriation until the roads are macadamized and put in such condition as to obviate the mud and dust nuisances.

Third. The extension of the military post at this point to accommodate another company.

Fourth. The completion of the work now begun of locating and marking the boundaries. This I regard as one of the most important objects yet to be obtained.

My thanks are due to all the officers on duty in the park for willing and intelligent cooperation, and especially to Capt. G. L. Scott, Sixth Cavalry, for valuable assistance rendered by him.

The meteorological record kept under the direction of Assistant Surgeon Bradley is appended.

GEO. S. ANDERSON,  
*Captain Sixth Cavalry,*

*Acting Superintendent Yellowstone National Park.*

The SECRETARY OF THE INTERIOR.

METEOROLOGICAL RECORD.

| JULY, 1895.  |          |          |        |        |                     |          | AUGUST, 1895.   |          |          |        |        |                     |             | SEPTEMBER, 1895.  |          |          |        |        |                     |          |
|--|----------|----------|--------|--------|---------------------|----------|---|----------|----------|--------|--------|---------------------|-------------|---|----------|----------|--------|--------|---------------------|----------|
| Date.  | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks.    | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. |
| 1.....   | 82       | 48       | 34     | S.     | 0.02                | Rain.    | 1.....  | 82       | 54       | 28     | N.     | 0.02                | Rain.       | 1.....  | 79       | 40       | 39     | SW.    | .....               |          |
| 2.....   | 86       | 50       | 36     | S.     | .....               |          | 2.....  | 80       | 44       | 36     | N.     | .....               |             | 2.....  | 80       | 38       | 42     | S.     | .....               |          |
| 3.....   | 76       | 55       | 21     | S.     | .....               |          | 3.....  | 77       | 51       | 26     | S.     | .....               |             | 3.....  | 71       | 41       | 30     | SW.    | .....               |          |
| 4.....   | 76       | 50       | 26     | S.     | .....               |          | 4.....  | 80       | 47       | 33     | N.     | .....               |             | 4.....  | 62       | 41       | 21     | W.     | .....               |          |
| 5.....   | 68       | 42       | 26     | NW.    | .01                 | Rain.    | 5.....  | 81       | 47       | 34     | N.     | .....               |             | 5.....  | 60       | 41       | 19     | W.     | .....               |          |
| 6.....   | 60       | 35       | 25     | NW.    | .....               |          | 6.....  | 85       | 47       | 38     | S.     | .....               |             | 6.....  | 58       | 36       | 22     | NW.    | .....               |          |
| 7.....   | 55       | 35       | 20     | NW.    | .02                 | Rain.    | 7.....  | 76       | 49       | 27     | S.     | .14                 | Rain, hail. | 7.....  | 52       | 29       | 23     | NW.    | 0.01                | Rain.    |
| 8.....   | 61       | 38       | 28     | SE.    | .12                 | Rain.    | 8.....  | 77       | 38       | 39     | N.     | .....               |             | 8.....  | 65       | 26       | 39     | W.     | .....               |          |
| 9.....   | 60       | 33       | 22     | N.     | .03                 | Rain.    | 9.....  | 70       | 37       | 33     | W.     | .....               |             | 9.....  | 70       | 37       | 33     | NW.    | .....               |          |
| 10.....  | 65       | 35       | 30     | NW.    | .02                 | Rain.    | 10.....   | 87       | 36       | 51     | SW.    | .....               |             | 10.....   | 72       | 46       | 26     | NW.    | .....               |          |
| 11.....  | 71       | 36       | 35     | NW.    | .....               |          | 11.....   | 82       | 40       | 42     | S.     | .....               |             | 11.....   | 59       | 43       | 16     | W.     | .....               |          |
| 12.....  | 78       | 40       | 38     | S.     | .....               |          | 12.....   | 84       | 41       | 43     | S.     | .....               |             | 12.....   | 65       | 38       | 27     | NW.    | .....               |          |
| 13.....  | 79       | 44       | 35     | NW.    | .....               |          | 13.....   | 82       | 54       | 28     | N.     | .....               |             | 13.....   | 74       | 46       | 28     | W.     | .....               |          |
| 14.....  | 80       | 46       | 34     | W.     | .....               |          | 14.....   | 83       | 38       | 45     | S.     | .....               |             | 14.....   | 78       | 54       | 24     | W.     | .....               |          |
| 15.....  | 83       | 49       | 34     | NW.    | .....               |          | 15.....   | 84       | 48       | 36     | NW.    | .01                 | Rain.       | 15.....   | 71       | 37       | 34     | W.     | .....               |          |
| 16.....  | 80       | 42       | 38     | SW.    | .....               |          | 16.....   | 82       | 47       | 35     | NW.    | .....               |             | 16.....   | 72       | 29       | 43     | NW.    | .20                 | Rain.    |
| 17.....  | 79       | 53       | 26     | N.     | .....               |          | 17.....   | 81       | 49       | 32     | W.     | .....               |             | 17.....   | 76       | 30       | 46     | NW.    | .....               |          |
| 18.....  | 69       | 37       | 32     | SW.    | .....               |          | 18.....   | 74       | 42       | 32     | SW.    | .....               |             | 18.....   | 78       | 44       | 34     | W.     | .....               |          |
| 19.....  | 74       | 41       | 33     | NW.    | .01                 | Rain.    | 19.....   | 83       | 43       | 40     | SW.    | .....               |             | 19.....   | 78       | 47       | 31     | W.     | .....               |          |
| 20.....  | 75       | 35       | 40     | W.     | .....               |          | 20.....   | 85       | 43       | 42     | S.     | .....               |             | 20.....   | 74       | 45       | 29     | W.     | .....               |          |
| 21.....  | 72       | 35       | 37     | NW.    | .....               |          | 21.....   | 76       | 53       | 23     | SW.    | .....               |             | 21.....   | 52       | 29       | 23     | N.     | .01                 | Snow.    |
| 22.....  | 80       | 44       | 36     | N.     | .....               |          | 22.....   | 74       | 45       | 29     | SW.    | .....               |             | 22.....   | 39       | 0        | 39     | N.     | .20                 | Snow.    |
| 23.....  | 83       | 43       | 40     | N.     | .....               |          | 23.....   | 76       | 42       | 34     | SW.    | .....               |             | 23.....   | 39       | 12       | 27     | N.     | .01                 | Snow.    |
| 24.....  | 87       | 52       | 35     | W.     | .01                 | Rain.    | 24.....   | 78       | 44       | 34     | S.     | .....               |             | 24.....   | 51       | 24       | 27     | NW.    | .....               |          |
| 25.....  | 82       | 49       | 33     | W.     | .....               |          | 25.....   | 82       | 44       | 38     | S.     | .50                 | Rain.       | 25.....   | 61       | 46       | 15     | W.     | .....               |          |
| 26.....  | 83       | 47       | 38     | W.     | .....               |          | 26.....   | 80       | 40       | 40     | S.     | .....               |             | 26.....   | 62       | 42       | 20     | W.     | .....               |          |
| 27.....  | 86       | 48       | 38     | W.     | .....               |          | 27.....   | 68       | 37       | 31     | W.     | .....               |             | 27.....   | 65       | 30       | 35     | W.     | .....               |          |
| 28.....  | 86       | 49       | 37     | N.     | .01                 | Rain.    | 28.....   | 68       | 44       | 24     | W.     | .....               |             | 28.....   | 69       | 42       | 27     | S.     | .....               |          |
| 29.....  | 80       | 48       | 32     | NW.    | .04                 | Rain.    | 29.....   | 71       | 44       | 27     | S.     | .....               |             | 29.....   | 55       | 27       | 28     | W.     | .....               |          |
| 30.....  | 83       | 54       | 29     | N.     | .06                 | Rain.    | 30.....   | 75       | 45       | 30     | S.     | .....               |             | 30.....   | 70       | 27       | 43     | S.     | .....               |          |
| 31.....  | 84       | 49       | 35     | W.     | .22                 | Rain.    | 31.....   | 79       | 40       | 39     | S.     | .....               |             | 31.....   | 70       | 27       | 43     | S.     | .....               |          |
| Total -  | 2,363    | 1,360    | 1,003  | .....  | .57                 |          | Total -   | 2,442    | 1,373    | 1,069  | .....  | .72                 |             | Total -   | 1,957    | 1,067    | 890    | .....  | .43                 |          |
| Mean -   | 76.23    | 43.87    | 32.35  | NW.    | .....               |          | Mean -  | 78.77    | 44.29    | 34.48  | S.     | .....               |             | Mean -  | 65.23    | 35.57    | 29.67  | W.     | .....               |          |
| Maximum, 87° on 14th instant; minimum, 33° on 8th instant; mean, 60.05°; total precipitation, 0.57; prevailing winds, northwest. |          |          |        |        |                     |          | Maximum, 87° on 10th instant; minimum, 36° on 10th instant; mean, 61.53°; precipitation, 0.72; prevailing winds, south. |          |          |        |        |                     |             | Maximum, 80° on 2d instant; minimum, 0° on 22d instant; mean, 50.40; precipitation, 0.43; prevailing winds, west. |          |          |        |        |                     |          |



| OCTOBER, 1895. |          |          |        |        |                     |          | NOVEMBER, 1895. |          |          |        |        |                     |          | DECEMBER, 1895. |          |          |        |        |                     |              |
|----------------|----------|----------|--------|--------|---------------------|----------|-----------------|----------|----------|--------|--------|---------------------|----------|-----------------|----------|----------|--------|--------|---------------------|--------------|
| Date.          | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.           | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.           | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks.     |
| 1.....         | 63       | 42       | 21     | SW.    | 0.01                | Rain.    | 1.....          | 51       | 36       | 15     | S.     | .....               |          | 1.....          | 31       | 18       | 13     | N.     | .....               |              |
| 2.....         | 56       | 34       | 22     | SW.    | .....               |          | 2.....          | 56       | 46       | 10     | S.     | .....               |          | 2.....          | 21       | 4        | 17     | N.     | .....               |              |
| 3.....         | 44       | 35       | 9      | SW.    | .02                 | Rain.    | 3.....          | 38       | 24       | 14     | NW.    | 0.31                | Snow.    | 3.....          | 20       | 0        | 20     | N.     | .....               |              |
| 4.....         | 50       | 23       | 27     | W.     | .....               |          | 4.....          | 23       | 15       | 8      | NW.    | .41                 | Snow.    | 4.....          | 27       | -1       | 28     | SW.    | .....               |              |
| 5.....         | 61       | 25       | 36     | SW.    | .....               |          | 5.....          | 24       | 8        | 16     | NW.    | .22                 | Snow.    | 5.....          | 35       | 20       | 15     | S.     | .....               |              |
| 6.....         | 65       | 33       | 32     | SW.    | .....               |          | 6.....          | 20       | 3        | 17     | NW.    | .....               |          | 6.....          | 34       | 27       | 7      | S.     | .....               |              |
| 7.....         | 69       | 36       | 33     | SW.    | .....               |          | 7.....          | 23       | 10       | 13     | S.     | .....               |          | 7.....          | 33       | 25       | 8      | S.     | .....               |              |
| 8.....         | 67       | 31       | 36     | SW.    | .....               |          | 8.....          | 27       | 15       | 12     | SW.    | .17                 | Snow.    | 8.....          | 29       | 17       | 12     | N.     | .....               |              |
| 9.....         | 60       | 43       | 17     | SW.    | .....               |          | 9.....          | 35       | 20       | 15     | S.     | .....               |          | 9.....          | 35       | 20       | 15     | NE.    | .....               |              |
| 10.....        | 67       | 30       | 37     | SW.    | .....               |          | 10.....         | 40       | 14       | 26     | S.     | .....               |          | 10.....         | 34       | 29       | 5      | S.     | .....               |              |
| 11.....        | 67       | 34       | 33     | SW.    | .....               |          | 11.....         | 38       | 19       | 19     | N.     | .....               |          | 11.....         | 37       | 25       | 12     | S.     | .....               |              |
| 12.....        | 69       | 37       | 32     | SW.    | .....               |          | 12.....         | 33       | 19       | 15     | N.     | .05                 | Snow.    | 12.....         | 44       | 27       | 17     | S.     | .....               |              |
| 13.....        | 67       | 34       | 33     | W.     | .....               |          | 13.....         | 32       | 19       | 13     | N.     | .....               |          | 13.....         | 42       | 25       | 17     | SE.    | .....               | Snow.        |
| 14.....        | 60       | 31       | 29     | SW.    | .....               |          | 14.....         | 35       | 23       | 12     | SW.    | .....               |          | 14.....         | 26       | 14       | 12     | S.     | .....               |              |
| 15.....        | 67       | 28       | 39     | SW.    | .....               |          | 15.....         | 42       | 29       | 13     | S.     | .....               |          | 15.....         | 32       | 27       | 5      | NW.    | .....               | Snow.        |
| 16.....        | 69       | 29       | 40     | S.     | .....               |          | 16.....         | 46       | 34       | 12     | S.     | .....               |          | 16.....         | 27       | 8        | 19     | N.     | .....               |              |
| 17.....        | 67       | 31       | 36     | SW.    | .....               |          | 17.....         | 43       | 31       | 12     | SW.    | .....               |          | 17.....         | 19       | 8        | 11     | N.     | .....               |              |
| 18.....        | 60       | 34       | 26     | W.     | .....               |          | 18.....         | 46       | 36       | 10     | S.     | .....               |          | 18.....         | 16       | 0        | 16     | N.     | .....               |              |
| 19.....        | 56       | 22       | 34     | SW.    | .....               |          | 19.....         | 39       | 22       | 17     | S.     | .....               |          | 19.....         | 16       | 6        | 10     | S.     | .....               |              |
| 20.....        | 68       | 22       | 46     | SW.    | .....               |          | 20.....         | 41       | 31       | 10     | N.     | .....               |          | 20.....         | 35       | 15       | 20     | S.     | .....               | Snow.        |
| 21.....        | 58       | 21       | 37     | S.     | .....               |          | 21.....         | 40       | 10       | 30     | NW.    | .....               |          | 21.....         | 21       | 7        | 14     | S.     | .....               |              |
| 22.....        | 49       | 16       | 33     | W.     | .....               |          | 22.....         | 10       | -4       | 14     | NW.    | .....               |          | 22.....         | 11       | 3        | 8      | N.     | .....               |              |
| 23.....        | 56       | 20       | 36     | S.     | .....               |          | 23.....         | 13       | -10      | 23     | NW.    | .....               |          | 23.....         | 15       | 3        | 12     | SW.    | .....               | Snow traces. |
| 24.....        | 56       | 22       | 34     | S.     | .....               |          | 24.....         | 16       | 0        | 16     | N.     | .....               |          | 24.....         | 15       | 9        | 6      | NW.    | .....               | Snow traces. |
| 25.....        | 53       | 28       | 25     | N.     | .....               |          | 25.....         | 28       | 12       | 16     | N.     | .....               |          | 25.....         | 17       | 10       | 7      | N.     | .....               |              |
| 26.....        | 48       | 27       | 21     | NW.    | .41                 | Snow.    | 26.....         | 28       | 19       | 9      | N.     | .....               |          | 26.....         | 26       | 15       | 11     | S.     | .....               |              |
| 27.....        | 44       | 14       | 30     | S.     | .....               |          | 27.....         | 34       | 27       | 7      | S.     | .15                 | Snow.    | 27.....         | 25       | 15       | 10     | S.     | .....               |              |
| 28.....        | 54       | 24       | 30     | S.     | .....               |          | 28.....         | 35       | 20       | 15     | S.     | .....               |          | 28.....         | 24       | 6        | 18     | N.     | .....               |              |
| 29.....        | 50       | 23       | 27     | NW.    | .....               |          | 29.....         | 36       | 12       | 24     | S.     | .....               |          | 29.....         | 9        | -6       | 15     | N.     | .....               | Snow.        |
| 30.....        | 46       | 24       | 22     | W.     | .....               |          | 30.....         | 30       | 22       | 8      | S.     | .....               |          | 30.....         | 18       | 7        | 11     | N.     | .....               |              |
| 31.....        | 50       | 23       | 27     | S.     | .....               |          | 31.....         | 30       | 22       | 8      | S.     | .....               |          | 31.....         | 17       | 5        | 12     | S.     | .....               | Snow traces. |
| Total.         | 1,816    | 876      | 940    | .....  | .44                 |          | Total.          | 1,002    | 561      | 441    | .....  | 1.30                |          | Total.          | 791      | 388      | 403    | .....  | 1.29                |              |
| Mean.          | 58.58    | 28.26    | 30.32  | SW.    | .....               |          | Mean.           | 33.41    | 18.70    | 14.70  | S.     | .....               |          | Mean.           | 25.52    | 12.52    | 13.00  | S.     | .....               |              |

Maximum, 69° on 7th instant; minimum, 14° on 27th instant; mean, 43.42°; precipitation, 0.44; prevailing winds, southwest.

Maximum, 56° on 2d instant; minimum, -10° on 23d instant; mean, 26.05°; precipitation, 1.30; prevailing winds, south.

Maximum, 44° on 12th instant; minimum, -6° on 29th instant; mean, 19.02°; precipitation, 1.29; prevailing winds, south.



## METEOROLOGICAL RECORD—Continued.

| JANUARY, 1896. |          |          |        |        |                | FEBRUARY, 1896. |         |          |          |        |        | MARCH, 1896.   |          |         |          |          |        |        |                |              |
|----------------|----------|----------|--------|--------|----------------|-----------------|---------|----------|----------|--------|--------|----------------|----------|---------|----------|----------|--------|--------|----------------|--------------|
| Date.          | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.        | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.     |
| 1.....         | 28       | 16       | 12     | S.     | 0.52           | Snow.           | 1.....  | 38       | 14       | 24     | S.     | .....          |          | 1.....  | 23       | -8       | 31     | N.     | 0.41           | Snow.        |
| 2.....         | 18       | -7       | 25     | N.     | .....          |                 | 2.....  | 36       | 25       | 11     | S.     | .....          |          | 2.....  | -4       | -20      | 16     | N.     | .02            | Snow.        |
| 3.....         | 16       | 2        | 14     | N.     | .13            | Snow.           | 3.....  | 34       | 17       | 17     | S.     | .....          |          | 3.....  | 6        | -21      | 27     | N.     | .....          |              |
| 4.....         | 28       | 14       | 14     | N.     | .....          |                 | 4.....  | 24       | 1        | 23     | N.     | .....          |          | 4.....  | 20       | 4        | 16     | W.     | .12            | Snow.        |
| 5.....         | 36       | 22       | 14     | S.     | .....          |                 | 5.....  | 26       | 16       | 10     | NW.    | 0.21           | Snow.    | 5.....  | 30       | 8        | 22     | S.     | .....          |              |
| 6.....         | 37       | 25       | 12     | S.     | .....          |                 | 6.....  | 19       | 13       | 6      | N.     | .40            | Snow.    | 6.....  | 24       | 3        | 21     | SE.    | .....          |              |
| 7.....         | 36       | 18       | 18     | S.     | .....          |                 | 7.....  | 17       | -5       | 22     | N.     | .....          |          | 7.....  | 22       | 9        | 13     | N.     | .....          |              |
| 8.....         | 40       | 25       | 15     | S.     | .....          |                 | 8.....  | 33       | 13       | 20     | N.     | .....          |          | 8.....  | 36       | 21       | 15     | SW.    | .21            | Snow traces. |
| 9.....         | 37       | 24       | 13     | S.     | .....          |                 | 9.....  | 27       | 18       | 9      | N.     | .32            | Snow.    | 9.....  | 35       | 19       | 16     | S.     | .....          |              |
| 10.....        | 38       | 31       | 7      | S.     | .....          |                 | 10..... | 35       | 5        | 30     | NW.    | .....          |          | 10..... | 38       | 17       | 21     | S.     | .....          |              |
| 11.....        | 35       | 13       | 22     | N.     | .....          | Snow traces.    | 11..... | 25       | 19       | 6      | SW.    | .....          |          | 11..... | 36       | 25       | 11     | W.     | .....          |              |
| 12.....        | 22       | -6       | 28     | N.     | .....          |                 | 12..... | 24       | 15       | 9      | SW.    | .....          |          | 12..... | 41       | 20       | 21     | S.     | .....          |              |
| 13.....        | 31       | 4        | 27     | N.     | .....          |                 | 13..... | 32       | 21       | 11     | SW.    | .....          |          | 13..... | 30       | 17       | 13     | N.     | .41            | Snow.        |
| 14.....        | 28       | 14       | 14     | SW.    | .....          |                 | 14..... | 37       | 27       | 10     | NW.    | .21            | Snow.    | 14..... | 26       | 0        | 26     | N.     | .....          |              |
| 15.....        | 14       | -6       | 20     | N.     | .61            | Snow.           | 15..... | 40       | 14       | 26     | N.     | .....          |          | 15..... | 36       | 1        | 35     | NW.    | .....          |              |
| 16.....        | 35       | -5       | 40     | S.     | .41            | Snow.           | 16..... | 40       | 25       | 15     | S.     | .....          |          | 16..... | 32       | 20       | 12     | NW.    | .30            | Snow.        |
| 17.....        | 38       | 32       | 6      | S.     | .17            | Snow.           | 17..... | 43       | 23       | 20     | S.     | .....          |          | 17..... | 35       | 2        | 33     | S.     | .....          |              |
| 18.....        | 42       | 31       | 11     | S.     | .05            | Rain.           | 18..... | 39       | 14       | 25     | S.     | .....          |          | 18..... | 45       | 19       | 26     | S.     | .....          |              |
| 19.....        | 38       | 25       | 13     | N.     | .....          |                 | 19..... | 43       | 16       | 27     | S.     | .....          |          | 19..... | 46       | 17       | 29     | SW.    | .....          |              |
| 20.....        | 48       | 26       | 22     | S.     | .32            | Snow, rain.     | 20..... | 46       | 14       | 32     | S.     | .....          |          | 20..... | 41       | 33       | 8      | SE.    | .40            | Snow, rain.  |
| 21.....        | 40       | 34       | 6      | S.     | .....          |                 | 21..... | 44       | 17       | 27     | SW.    | .....          |          | 21..... | 45       | 32       | 13     | S.     | .....          |              |
| 22.....        | 36       | 22       | 14     | N.     | .....          |                 | 22..... | 34       | 24       | 10     | NW.    | .....          |          | 22..... | 49       | 31       | 18     | S.     | .....          |              |
| 23.....        | 28       | 13       | 15     | N.     | .....          |                 | 23..... | 39       | 6        | 33     | N.     | .....          |          | 23..... | 50       | 35       | 15     | S.     | .....          |              |
| 24.....        | 26       | 19       | 7      | N.     | .....          |                 | 24..... | 42       | 20       | 22     | S.     | .....          |          | 24..... | 45       | 39       | 6      | S.     | .07            | Snow.        |
| 25.....        | 37       | 18       | 19     | N.     | .....          | Snow traces.    | 25..... | 43       | 23       | 20     | S.     | .....          |          | 25..... | 46       | 32       | 14     | S.     | .05            | Snow.        |
| 26.....        | 39       | 29       | 10     | S.     | .....          | Snow traces.    | 26..... | 42       | 31       | 11     | N.     | .....          |          | 26..... | 45       | 34       | 11     | S.     | .02            | Snow.        |
| 27.....        | 45       | 22       | 23     | S.     | .....          |                 | 27..... | 31       | 18       | 13     | SE.    | .05            | Snow.    | 27..... | 44       | 31       | 13     | NW.    | .31            | Snow.        |
| 28.....        | 43       | 29       | 14     | S.     | .....          |                 | 28..... | 33       | 25       | 8      | N.     | .55            | Snow.    | 28..... | 37       | 25       | 12     | NW.    | .05            | Snow.        |
| 29.....        | 40       | 24       | 16     | S.     | .....          |                 | 29..... | 26       | 5        | 21     | S.     | .02            | Snow.    | 29..... | 34       | 19       | 15     | N.     | .25            | Snow.        |
| 30.....        | 35       | 22       | 13     | S.     | .....          | Snow traces.    | 30..... | .....    | .....    | .....  | .....  | .....          |          | 30..... | 38       | 17       | 21     | NW.    | .....          |              |
| 31.....        | 31       | 10       | 21     | S.     | .....          |                 | 31..... | .....    | .....    | .....  | .....  | .....          |          | 31..... | 25       | 6        | 19     | NW.    | .....          |              |
| Total.         | 1,045    | 540      | 505    | .....  | 2.21           |                 | Total.  | 992      | 474      | 518    | .....  | 2.07           |          | Total.  | 1,056    | 487      | 569    | .....  | 2.62           |              |
| Mean.          | 33.70    | 17.42    | 16.29  | S.     | .....          |                 | Mean.   | 34.21    | 16.34    | 17.86  | S.     | .....          |          | Mean.   | 34.06    | 15.71    | 18.35  | S.     | .....          |              |

Maximum, 48° on 20th instant; minimum, -7° on 2d instant; mean, 25.56°; precipitation, 2.21; prevailing winds, south.

Maximum, 46° on 20th instant; minimum, -5° on 7th instant; mean, 25.27°; precipitation, 2.07; prevailing winds, south.

Maximum, 50° on 23d instant; minimum, -21° on 3d instant; mean, 24.88°; precipitation, 2.62; prevailing winds, south.

APRIL, 1896.

MAY, 1896.

JUNE, 1896.

| Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.     | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.        |
|---------|----------|----------|--------|--------|----------------|--------------|---------|----------|----------|--------|--------|----------------|-----------------|
| 1.....  | 32       | 0        | 32     | S.     | .....          |              | 1.....  | 56       | 29       | 27     | S.     | .....          |                 |
| 2.....  | 43       | 10       | 33     | S.     | .....          |              | 2.....  | 47       | 29       | 18     | W.     | .....          | Snow traces.    |
| 3.....  | 48       | 20       | 28     | S.     | .....          |              | 3.....  | 54       | 34       | 20     | S.     | .....          |                 |
| 4.....  | 50       | 23       | 27     | S.     | .....          |              | 4.....  | 51       | 37       | 14     | SE.    | 0.71           |                 |
| 5.....  | 53       | 29       | 24     | S.     | .....          |              | 5.....  | 43       | 33       | 10     | NW.    | .34            | Rain, snow.     |
| 6.....  | 59       | 33       | 26     | W.     | .....          |              | 6.....  | 42       | 30       | 12     | NW.    | .47            | Snow.           |
| 7.....  | 49       | 31       | 18     | W.     | 0.03           | Snow.        | 7.....  | 48       | 32       | 16     | W.     | .12            | Snow.           |
| 8.....  | 40       | 29       | 11     | S.     | .06            | Snow.        | 8.....  | 45       | 30       | 15     | S.     | .29            |                 |
| 9.....  | 38       | 27       | 11     | S.     | .04            | Snow, rain.  | 9.....  | 48       | 34       | 14     | S.     | .16            |                 |
| 10..... | 36       | 27       | 9      | N.     | .59            | Snow.        | 10..... | 44       | 29       | 15     | S.     | .11            |                 |
| 11..... | 34       | 22       | 12     | NW.    | .15            | Snow.        | 11..... | 45       | 32       | 13     | S.     | .05            |                 |
| 12..... | 43       | 17       | 26     | S.     | .....          |              | 12..... | 45       | 32       | 13     | NW.    | .....          | Snow traces.    |
| 13..... | 49       | 36       | 13     | S.     | .05            | Rain.        | 13..... | 41       | 21       | 20     | NW.    | .03            | Snow.           |
| 14..... | 44       | 30       | 14     | S.     | .27            | Snow.        | 14..... | 34       | 19       | 15     | NW.    | .07            | Snow.           |
| 15..... | 31       | 18       | 13     | NW.    | .....          | Snow traces. | 15..... | 38       | 22       | 16     | S.     | .04            | Snow.           |
| 16..... | 22       | 8        | 14     | NW.    | .....          | Snow traces. | 16..... | 41       | 24       | 17     | S.     | .....          | Snow traces.    |
| 17..... | 19       | 10       | 9      | NW.    | .....          |              | 17..... | 44       | 26       | 18     | S.     | .....          |                 |
| 18..... | 33       | 12       | 21     | SW.    | .....          | Snow traces. | 18..... | 45       | 23       | 22     | SW.    | .11            | Snow.           |
| 19..... | 38       | 20       | 18     | W.     | .....          | Snow traces. | 19..... | 44       | 32       | 12     | S.     | .15            | Snow traces.    |
| 20..... | 40       | 18       | 22     | NW.    | .....          |              | 20..... | 50       | 30       | 20     | S.     | .....          |                 |
| 21..... | 48       | 27       | 21     | SW.    | .....          |              | 21..... | 61       | 30       | 31     | S.     | .....          |                 |
| 22..... | 51       | 30       | 21     | S.     | .10            | Snow, rain.  | 22..... | 57       | 39       | 18     | S.     | .09            |                 |
| 23..... | 48       | 32       | 16     | SW.    | .....          |              | 23..... | 61       | 36       | 25     | S.     | .08            |                 |
| 24..... | 55       | 31       | 24     | S.     | .....          |              | 24..... | 52       | 39       | 13     | S.     | .72            |                 |
| 25..... | 58       | 33       | 25     | S.     | .....          |              | 25..... | 56       | 33       | 23     | NW.    | .04            |                 |
| 26..... | 60       | 32       | 28     | S.     | .....          |              | 26..... | 62       | 40       | 22     | S.     | .....          | Slight showers. |
| 27..... | 47       | 31       | 16     | S.     | .....          |              | 27..... | 60       | 35       | 25     | S.     | .12            |                 |
| 28..... | 47       | 29       | 18     | SE.    | .....          |              | 28..... | 71       | 34       | 37     | S.     | .....          |                 |
| 29..... | 57       | 28       | 29     | S.     | .....          |              | 29..... | 76       | 43       | 33     | S.     | .....          |                 |
| 30..... | 53       | 33       | 20     | S.     | .....          | Snow traces. | 30..... | 49       | 44       | 5      | NW.    | .15            |                 |
| Total.  | 1,325    | 726      | 599    | .....  | 1.29           |              | Total.  | 1,619    | 1,017    | 602    | .....  | 3.85           |                 |
| Mean.   | 44.17    | 24.20    | 19.27  | S.     | .....          |              | Mean.   | 52.23    | 32.81    | 19.42  | S.     | .....          |                 |

Maximum, 60° on 26th instant; minimum, 0° on 1st instant; mean, 34.19°; precipitation, 1.29; prevailing winds, south.

Maximum, 76° on 29th instant; minimum, 19° on 14th instant; mean, 42.52°; precipitation, 3.85; prevailing winds, south.

Maximum, 35° on 30th instant; minimum, 32° on 12th and 26th instant; mean, 56.29°; precipitation, 0.73; winds, south.

*Time of eruptions of geysers at Upper Basin, Yellowstone National Park.*

JULY, 1895.

| Date.               | Artemisia. | Beehive.    | Castle. | Grand. | Giant. | Giantess. | Splendid.   |
|---------------------|------------|-------------|---------|--------|--------|-----------|-------------|
| 1.... { a. m. ....  |            |             |         | 7.30   |        |           | 8.30        |
| 1.... { p. m. ....  | 7.30       |             | 3.45    |        |        | 5.10      | 1.30        |
| 2.... { a. m. ....  |            | 11.00       |         | 1.45   |        |           |             |
| 2.... { p. m. ....  | 7.15       | 5.30        | 3.45    |        | 5.00   |           | 2.30        |
| 3.... { a. m. ....  |            | 11.30       | 8.45    | 7.00   |        |           | 6.30, 11.45 |
| 3.... { p. m. ....  | 6.30       | 7.00        |         |        |        |           | 5.00        |
| 4.... { a. m. ....  | 7.30       | 11.45       |         | 5.30   |        |           |             |
| 4.... { p. m. ....  |            |             |         |        |        |           | 4.30        |
| 5.... { a. m. ....  |            |             |         |        |        |           |             |
| 5.... { p. m. ....  | 5.00       |             |         | 7.15   |        |           |             |
| 6.... { a. m. ....  |            |             | 9.15    |        |        |           | 1.30        |
| 6.... { p. m. ....  | 7.30       |             |         | 8.30   | 1.30   |           |             |
| 7.... { a. m. ....  |            |             |         | 5.30   |        |           | 5.30        |
| 7.... { p. m. ....  | 7.30       |             | 6.45    |        |        |           |             |
| 8.... { a. m. ....  | 8.30       |             |         | 7.00   |        |           | 7.45        |
| 8.... { p. m. ....  |            |             | 2.00    |        |        |           | 4.00        |
| 9.... { a. m. ....  |            |             |         |        |        |           |             |
| 9.... { p. m. ....  |            |             |         | 7.00   |        |           |             |
| 10.... { a. m. .... |            |             | 5.30    |        |        |           |             |
| 10.... { p. m. .... | 7.30       |             |         |        |        |           |             |
| 11.... { a. m. .... | 8.30       |             |         | 5.30   | 4.30   |           |             |
| 11.... { p. m. .... |            |             | 3.15    |        |        |           | 3.00        |
| 12.... { a. m. .... |            |             |         | 7.00   |        |           | 11.00       |
| 12.... { p. m. .... | 7.30       |             |         |        |        | 3.00      | 3.00, 6.00  |
| 13.... { a. m. .... |            |             |         |        |        |           | 6.30        |
| 13.... { p. m. .... | 8.00       |             | 4.00    |        |        |           |             |
| 14.... { a. m. .... |            | 6.00, 11.45 | 5.30    | 6.30   |        |           |             |
| 14.... { p. m. .... | 5.15       |             |         |        |        |           | 6.30        |
| 15.... { a. m. .... | 8.30       | 5.30        | 11.45   | 8.00   |        |           |             |
| 15.... { p. m. .... |            |             |         |        | 3.00   |           |             |
| 16.... { a. m. .... |            |             |         | 7.00   |        |           | 9.00        |
| 16.... { p. m. .... | 7.15       |             | 3.00    |        |        |           | 1.30, 6.00  |
| 17.... { a. m. .... |            | 3.00        |         | 5.30   |        |           |             |
| 17.... { p. m. .... | 6.30       |             |         |        |        |           |             |
| 18.... { a. m. .... |            |             | 9.00    | 4.30   |        | 8.00      |             |
| 18.... { p. m. .... | 8.30       | 7.10        |         |        |        |           | 1.30        |
| 19.... { a. m. .... |            | 11.00       |         | 5.00   |        |           | 9.00, 11.00 |
| 19.... { p. m. .... | 7.00       |             | 12.15   |        |        |           | 2.30, 6.00  |
| 20.... { a. m. .... |            |             |         | 6.00   | 4.30   |           |             |
| 20.... { p. m. .... | 5.15       |             |         |        |        |           |             |
| 21.... { a. m. .... |            |             | 6.00    | 7.00   |        |           |             |
| 21.... { p. m. .... |            |             |         |        |        |           |             |
| 22.... { a. m. .... |            |             |         | 5.30   |        |           |             |
| 22.... { p. m. .... | 7.00       |             | 12.30   |        |        |           |             |
| 23.... { a. m. .... |            |             |         |        |        |           | 6.00, 9.00  |
| 23.... { p. m. .... | 4.30       |             |         | 8.30   |        |           | 3.30        |
| 24.... { a. m. .... | 8.00       |             | 4.30    | 6.30   | 9.30   |           |             |
| 24.... { p. m. .... |            |             | 9.00    |        |        |           | 5.30        |
| 25.... { a. m. .... |            |             | 11.45   | 8.00   |        |           | 9.00, 11.00 |
| 25.... { p. m. .... | 2.30       | 2.00        |         |        |        |           | 2.00, 5.00, |
|                     |            |             |         |        |        |           | 7.00        |
| 26.... { a. m. .... |            |             |         | 7.30   |        |           | 7.30        |
| 26.... { p. m. .... | 5.00       |             | 12.30   |        |        |           |             |
| 27.... { a. m. .... |            |             |         |        |        | 4.30      |             |
| 27.... { p. m. .... | 2.30       | 2.30        | 1.00    |        |        |           |             |
| 28.... { a. m. .... |            | 11.45       |         |        | 4.00   |           |             |
| 28.... { p. m. .... | 3.30       |             |         | 7.30   |        |           |             |
| 29.... { a. m. .... |            | 10.30       | 9.00    |        |        |           |             |
| 29.... { p. m. .... | 4.30       | 2.00        |         | 6.30   |        |           | 2.30, 4.30, |
|                     |            |             |         |        |        |           | 6.30        |
| 30.... { a. m. .... |            |             |         | 7.00   |        |           |             |
| 30.... { p. m. .... | 5.15       |             | 3.00    |        |        |           |             |
| 31.... { a. m. .... |            |             |         |        |        |           |             |
| 31.... { p. m. .... |            |             |         |        |        |           |             |



*Time of eruptions of geysers at Upper Basin, Yellowstone National Park—Continued.*

AUGUST, 1895.

| Date.               | Artemisia. | Beehive.   | Castle. | Grand. | Giant. | Giantess. | Splendid.            |
|---------------------|------------|------------|---------|--------|--------|-----------|----------------------|
| 1.... { a. m. ....  | 8.30       |            |         | 8.00   |        |           |                      |
| 1.... { p. m. ....  |            |            |         |        |        |           |                      |
| 2.... { a. m. ....  |            |            | 8.30    |        |        |           |                      |
| 2.... { p. m. ....  | 5.00       |            |         |        | 9.00   |           |                      |
| 3.... { a. m. ....  | 9.00       |            | 9.30    |        |        |           |                      |
| 3.... { p. m. ....  |            |            |         | 4.30   |        |           |                      |
| 4.... { a. m. ....  |            | 8.00       | 4.00    | 7.30   |        | 2.30      |                      |
| 4.... { p. m. ....  | 2.30       | 4.00       |         |        |        |           |                      |
| 5.... { a. m. ....  |            |            |         | 6.30   |        |           |                      |
| 5.... { p. m. ....  | 5.15       | 6.00       | 12.30   |        |        |           | 7.30                 |
| 6.... { a. m. ....  |            |            | 9.00    | 5.30   |        |           |                      |
| 6.... { p. m. ....  | 2.30       | 12.30      |         |        | 11.45  |           |                      |
| 7.... { a. m. ....  |            |            | 5.30    | 10.00  |        |           | 6.30                 |
| 7.... { p. m. ....  | 8.30       | 4.30       | 9.00    |        |        |           | 4.00                 |
| 8.... { a. m. ....  |            |            |         |        |        |           | 6.30                 |
| 8.... { p. m. ....  | 4.30       | 4.15       |         |        |        |           |                      |
| 9.... { a. m. ....  |            |            | 11.45   | 7.00   |        |           |                      |
| 9.... { p. m. ....  | 5.10       |            |         |        |        |           | 4.30                 |
| 10.... { a. m. .... | 9.30       |            | 8.00    |        | 5.10   |           |                      |
| 10.... { p. m. .... |            | 1.00       |         | 8.00   |        |           |                      |
| 11.... { a. m. .... |            |            |         |        |        |           |                      |
| 11.... { p. m. .... | 3.30       |            | 1.30    |        |        | 4.30      |                      |
| 12.... { a. m. .... | 8.00       | 3.00       |         |        |        |           |                      |
| 12.... { p. m. .... |            |            | 4.30    |        | 3.00   |           |                      |
| 13.... { a. m. .... |            | 9.00       | 11.30   | 7.30   |        |           | 9.00                 |
| 13.... { p. m. .... | 4.00       |            |         |        |        |           | 12.15, 3.00,<br>6.00 |
| 14.... { a. m. .... |            | 11.30      | 11.45   |        |        |           | 6.30                 |
| 14.... { p. m. .... | 3.00       | 2.15       |         |        |        |           |                      |
| 15.... { a. m. .... |            |            |         | 6.30   |        |           |                      |
| 15.... { p. m. .... | 7.30       | 2.30       | 4.30    |        |        |           |                      |
| 16.... { a. m. .... |            | 11.30      |         | 5.30   |        |           | 9.00                 |
| 16.... { p. m. .... | 4.30       |            |         |        |        |           | 12.30, 3.00,<br>6.00 |
| 17.... { a. m. .... |            |            | 5.00    |        |        |           |                      |
| 17.... { p. m. .... | 2.30       |            |         |        | 11.30  |           |                      |
| 18.... { a. m. .... |            |            |         | 7.00   |        |           |                      |
| 18.... { p. m. .... |            |            | 3.30    |        |        |           |                      |
| 19.... { a. m. .... | 8.00       |            |         | 6.30   |        |           |                      |
| 19.... { p. m. .... |            |            |         |        |        |           | 2.30, 4.00,<br>7.30  |
| 20.... { a. m. .... |            |            | 5.30    | 7.00   |        |           |                      |
| 20.... { p. m. .... | 5.30       |            |         |        |        |           | 6.30                 |
| 21.... { a. m. .... |            | 2.30, 7.00 | 4.00    |        |        | 1.30      |                      |
| 21.... { p. m. .... |            | 5.10       | 9.00    | 7.00   | 9.30   |           |                      |
| 22.... { a. m. .... |            | 6.00       |         |        |        |           |                      |
| 22.... { p. m. .... | 2.30       | 6.15       | 4.00    | 9.00   |        |           |                      |
| 23.... { a. m. .... |            |            | 11.30   |        |        |           |                      |
| 23.... { p. m. .... |            |            |         |        |        |           | 7.30                 |
| 24.... { a. m. .... | 9.30       |            |         | 7.30   |        |           |                      |
| 24.... { p. m. .... |            |            |         |        |        |           | 4.30, 7.00           |
| 25.... { a. m. .... |            |            | 3.30    |        |        |           | 10.00, 12.00         |
| 25.... { p. m. .... | 7.00       | 4.00       |         |        |        |           | 4.00, 6.30           |
| 26.... { a. m. .... |            |            |         | 6.30   |        |           |                      |
| 26.... { p. m. .... |            |            |         |        |        |           |                      |
| 27.... { a. m. .... |            |            |         | 6.45   | 5.30   | 4.30      |                      |
| 27.... { p. m. .... | 3.30       | 2.00       | 2.30    |        |        |           |                      |
| 28.... { a. m. .... |            |            |         |        |        |           | 11.30                |
| 28.... { p. m. .... | 6.30       |            | 10.30   |        |        |           | 2.15, 7.00           |
| 29.... { a. m. .... |            |            |         | 7.00   |        |           | 7.30                 |
| 29.... { p. m. .... | 4.30       |            | 6.30    |        |        |           |                      |
| 30.... { a. m. .... |            |            |         | 5.30   |        |           |                      |
| 30.... { p. m. .... | 3.30       |            | 1.30    |        |        |           |                      |
| 31.... { a. m. .... |            |            |         |        |        |           |                      |
| 31.... { p. m. .... |            |            |         |        |        |           |                      |

Time of eruptions of geysers at Upper Basin, Yellowstone National Park—Continued.

SEPTEMBER, 1895.

| Date.  |              | Arte-<br>misia. | Beehive.    | Castle. | Grand. | Giant. | Giantess. | Splendid.   |
|--------|--------------|-----------------|-------------|---------|--------|--------|-----------|-------------|
| 1....  | { a. m. .... |                 |             | 4.30    | 6.30   |        |           | 7.30        |
|        | { p. m. .... | 7.30            |             |         |        | 4.30   |           |             |
| 2....  | { a. m. .... |                 | 11.30       | 3.30    |        |        |           | 10.30       |
|        | { p. m. .... | 10.00           |             |         | 9.30   |        |           |             |
| 3....  | { a. m. .... |                 |             | 11.30   |        |        |           |             |
|        | { p. m. .... | 4.30            |             |         | 4.30   |        |           | 5.00        |
| 4....  | { a. m. .... |                 | 8.00        | 7.30    |        |        | 1.30      |             |
|        | { p. m. .... | 7.30            | 6.30        |         | 7.30   |        |           |             |
| 5....  | { a. m. .... | 9.30            | 5.30        |         | 6.30   | 9.00   |           | 10.00       |
|        | { p. m. .... |                 |             |         |        |        |           | 2.30, 5.30  |
| 6....  | { a. m. .... |                 | 4.00        | 5.00    | 7.00   |        |           | 8.30        |
|        | { p. m. .... | 4.30            |             | 1.00    |        |        |           |             |
| 7....  | { a. m. .... |                 | 3.30        | 8.30    | 2.30   |        |           |             |
|        | { p. m. .... | 8.30            |             |         |        |        |           |             |
| 8....  | { a. m. .... | 7.30            |             |         |        |        |           | 10.00       |
|        | { p. m. .... |                 | 3.35        | 1.00    | 5.30   |        |           | 1.30, 3.00, |
|        |              |                 |             |         |        |        |           | 6.00        |
| 9....  | { a. m. .... |                 |             |         |        |        |           | 8.00        |
|        | { p. m. .... | 3.30            |             |         | 2.30   | 4.30   |           | 5.30        |
| 10.... | { a. m. .... |                 |             | 4.30    |        |        | 6.30      |             |
|        | { p. m. .... | 2.30            |             |         | 7.00   |        |           |             |
| 11.... | { a. m. .... | 8.00            |             | 9.30    | 4.30   |        |           | 8.00        |
|        | { p. m. .... |                 |             |         |        |        |           |             |
| 12.... | { a. m. .... |                 |             | 5.30    | 6.30   |        |           | 11.00       |
|        | { p. m. .... | 5.30            |             |         |        |        |           | 2.30, 5.30  |
| 13.... | { a. m. .... | 9.30            |             |         |        |        |           |             |
|        | { p. m. .... |                 | 6.30        | 7.00    | 7.00   |        |           |             |
| 14.... | { a. m. .... |                 | 6.00        |         |        |        |           | 7.30        |
|        | { p. m. .... | 4.30            | 5.30        |         | 9.30   | 6.30   |           | 4.00        |
| 15.... | { a. m. .... | 6.30            | 5.00        | 10.30   | 7.30   |        |           |             |
|        | { p. m. .... |                 |             |         |        |        |           |             |
| 16.... | { a. m. .... |                 |             |         |        |        |           | 8.30, 11.30 |
|        | { p. m. .... | 7.00            | 3.15        | 9.30    | 9.30   |        |           |             |
| 17.... | { a. m. .... |                 |             |         |        |        |           |             |
|        | { p. m. .... | 3.15            |             | 1.10    |        | 6.30   |           |             |
| 18.... | { a. m. .... |                 |             | 9.00    | 7.30   |        |           |             |
|        | { p. m. .... | 6.30            |             |         | 7.00   |        |           |             |
| 19.... | { a. m. .... |                 |             | 3.15    |        |        |           | 7.00        |
|        | { p. m. .... |                 |             |         | 8.50   |        |           |             |
| 20.... | { a. m. .... |                 |             | 9.30    |        |        |           |             |
|        | { p. m. .... | 2.30            |             |         | 7.30   | 10.30  | 3.00      |             |
| 21.... | { a. m. .... | 8.30            |             |         | 6.30   |        |           | 8.30        |
|        | { p. m. .... |                 |             | 12.30   |        |        |           |             |
| 22.... | { a. m. .... |                 |             | 7.30    |        |        |           |             |
|        | { p. m. .... | 5.30            | 11.30       |         | 7.30   | 11.45  |           |             |
| 23.... | { a. m. .... |                 |             |         |        |        |           | 7.30, 10.00 |
|        | { p. m. .... | 7.30            | 2.00        | 10.30   |        |        |           | 2.00        |
| 24.... | { a. m. .... | 9.00            | 2.00        |         | 7.30   |        |           |             |
|        | { p. m. .... |                 | 1.45        |         |        |        |           | 5.30        |
| 25.... | { a. m. .... | 8.30            | 3.30        |         | 5.30   |        |           |             |
|        | { p. m. .... |                 |             | 12.30   |        |        |           |             |
| 26.... | { a. m. .... |                 |             |         |        | 7.30   |           | 8.30        |
|        | { p. m. .... | 2.30            |             |         | 1.30   |        |           |             |
| 27.... | { a. m. .... |                 | 3.00        | 5.30    |        |        |           | 7.30        |
|        | { p. m. .... |                 |             |         |        |        |           | 3.30, 5.00  |
| 28.... | { a. m. .... | 8.30            |             |         | 7.30   |        |           |             |
|        | { p. m. .... |                 |             | 5.00    |        |        |           |             |
| 29.... | { a. m. .... | 10.30           |             |         |        |        |           |             |
|        | { p. m. .... |                 |             |         | 3.30   | 4.30   | 8.00      | 11.45       |
| 30.... | { a. m. .... |                 | 2.30, 10.00 | 9.30    |        |        |           | 2.00, 4.00, |
|        |              |                 |             |         |        |        |           | 6.00        |
|        | { p. m. .... | 2.30            |             |         | 4.30   |        |           | 7.30        |

Time of eruptions of geysers at Upper Basin, Yellowstone National Park—Continued.

JUNE, 1896.

| Date. |         | Artemisia. | Beehive. | Castle. | Grand. | Giant. | Giantess. | Splendid.           |
|-------|---------|------------|----------|---------|--------|--------|-----------|---------------------|
| 1     | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. |            |          |         |        |        |           |                     |
| 2     | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. |            |          |         |        |        |           |                     |
| 3     | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. |            |          |         |        |        |           |                     |
| 4     | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. |            |          |         |        |        |           |                     |
| 5     | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. |            |          |         |        |        |           |                     |
| 6     | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. |            |          |         |        |        |           |                     |
| 7     | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. |            |          |         |        |        |           |                     |
| 8     | { a. m. |            |          |         |        |        | 5. 00     |                     |
|       | { p. m. |            |          | 4. 30   |        |        |           | 2. 15, 4. 05        |
| 9     | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. | 6. 30      |          |         | 5. 30  |        |           | 5. 10, 7. 15        |
| 10    | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. | 5. 30      |          |         |        |        |           | 3. 35, 5. 40, 8. 10 |
| 11    | { a. m. | 10. 30     |          |         |        |        |           | 9. 25, 11. 10       |
|       | { p. m. |            |          | 10. 30  |        | 9. 30  |           |                     |
| 12    | { a. m. |            |          |         | 8. 30  |        |           |                     |
|       | { p. m. | 4. 30      |          |         |        |        |           | 8. 05               |
| 13    | { a. m. | 9. 30      |          |         |        |        |           | 7. 30               |
|       | { p. m. |            |          | 5. 30   |        |        |           |                     |
| 14    | { a. m. |            |          |         |        |        |           | 8. 00               |
|       | { p. m. | 6. 15      |          | 2. 00   | 7. 30  |        |           | 3. 00               |
| 15    | { a. m. |            |          | 8. 30   |        | 6. 30  |           | 10. 15              |
|       | { p. m. |            |          |         |        |        |           |                     |
| 16    | { a. m. |            |          |         | 6. 30  |        |           | 7. 30               |
|       | { p. m. | 7. 30      |          | 5. 30   |        |        |           |                     |
| 17    | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. | 6. 30      |          |         | 9. 30  |        |           | 4. 30, 6. 00        |
| 18    | { a. m. |            |          |         |        |        |           |                     |
|       | { p. m. | 7. 00      |          |         | 8. 00  |        |           | 5. 30               |
| 19    | { a. m. |            |          | 9. 30   |        |        |           | 8. 30               |
|       | { p. m. |            |          |         |        | 8. 30  |           |                     |
| 20    | { a. m. |            |          |         |        |        | 9. 30     |                     |
|       | { p. m. | 2. 30      |          |         |        |        |           | 5. 30               |
| 21    | { a. m. |            |          | 4. 30   |        |        |           | 7. 30               |
|       | { p. m. |            |          |         |        |        |           | 4. 00               |
| 22    | { a. m. |            |          |         | 8. 00  |        |           | 8. 30               |
|       | { p. m. | 7. 30      |          | 4. 30   |        |        |           | 3. 10               |
| 23    | { a. m. |            | 10. 25   |         |        |        |           |                     |
|       | { p. m. |            |          | 11. 30  |        | 9. 00  |           | 2. 40               |
| 24    | { a. m. |            |          | 11. 00  | 5. 30  |        |           | 8. 30               |
|       | { p. m. | 7. 30      | 11. 30   |         |        |        |           | 5. 00               |
| 25    | { a. m. | 6. 30      |          | 9. 30   | 6. 00  |        |           |                     |
|       | { p. m. |            |          |         |        |        |           | 5. 20               |
| 26    | { a. m. |            |          |         |        | 7. 30  |           |                     |
|       | { p. m. | 7. 00      |          |         |        |        |           |                     |
| 27    | { a. m. |            |          | 11. 00  | 7. 30  |        |           | 8. 00               |
|       | { p. m. | 6. 30      |          |         |        |        |           |                     |
| 28    | { a. m. |            |          | 6. 00   |        |        |           | 10. 00              |
|       | { p. m. |            |          |         |        |        |           | 7. 30               |
| 29    | { a. m. |            |          | 5. 30   | 6. 30  | 6. 30  |           | 10. 30              |
|       | { p. m. | 8. 30      |          |         |        |        |           | 3. 00               |
| 30    | { a. m. |            |          | 6. 00   |        |        | 4. 30     |                     |
|       | { p. m. | 7. 30      | 10. 30   |         |        |        |           | 5. 45               |



Time of eruptions of geysers at Upper Basin, Yellowstone National Park—Continued.

JULY, 1896.

| Date.  |           | Artemisia. | Beehive. | Castle. | Grand. | Giant. | Giantess. | Splendid.   |
|--------|-----------|------------|----------|---------|--------|--------|-----------|-------------|
| 1....  | a. m..... | 9.30       | 11.45    | 6.00    | 7.30   |        |           | 10.30       |
|        | p. m..... |            |          | 7.00    |        |        |           | 2.30        |
| 2....  | a. m..... | 7.30       |          | 6.00    | 6.00   |        |           | 7.30        |
|        | p. m..... |            |          |         |        |        |           | 6.00        |
| 3....  | a. m..... |            |          | 5.30    |        |        |           |             |
|        | p. m..... | 6.30       |          |         |        |        |           | 1.30        |
| 4....  | a. m..... |            |          | 8.30    | 8.30   |        |           |             |
|        | p. m..... | 5.10       |          |         |        |        |           | 3.30, 6.00  |
| 5....  | a. m..... |            |          | 6.00    |        | 11.30  |           | 10.30       |
|        | p. m..... | 6.30       |          |         |        |        |           | 6.00        |
| 6....  | a. m..... |            |          |         |        |        |           |             |
|        | p. m..... | 7.00       |          |         | 8.30   |        |           | 7.30        |
| 7....  | a. m..... |            |          | 9.30    |        |        |           | 9.00, 11.30 |
|        | p. m..... | 7.30       |          |         |        |        | 4.30      |             |
| 8....  | a. m..... |            |          | 5.30    | 5.30   |        |           | 7.30        |
|        | p. m..... | 5.30       |          |         |        |        |           | 5.00        |
| 9....  | a. m..... |            |          |         | 7.30   |        |           | 7.00, 10.00 |
|        | p. m..... | 7.00       |          |         |        |        |           | 1.00, 5.00  |
| 10.... | a. m..... |            |          |         |        |        |           |             |
|        | p. m..... | 2.45       |          | 3.15    |        | 10.30  |           | 4.30        |
| 11.... | a. m..... |            |          | 5.30    |        |        |           | 10.00       |
|        | p. m..... | 7.30       |          |         | 8.00   |        | 5.00      | 3.15, 6.30  |
| 12.... | a. m..... | 10.30      |          |         |        |        |           |             |
|        | p. m..... |            | 12.30    | 8.30    |        |        |           | 2.30        |
| 13.... | a. m..... | 7.30       |          | 10.30   | 5.30   |        |           |             |
|        | p. m..... |            | 1.30     |         |        |        |           | 2.15        |
| 14.... | a. m..... | 9.00       |          |         |        |        |           | 9.30        |
|        | p. m..... |            |          |         |        |        |           | 2.00, 4.30  |
| 15.... | a. m..... | 8.30       |          |         | 7.00   |        |           | 8.15, 10.30 |
|        | p. m..... |            |          | 1.00    |        | 1.30   |           |             |
| 16.... | a. m..... |            |          |         |        |        |           |             |
|        | p. m..... | 5.30       |          | 1.30    |        |        |           | 7.30        |
| 17.... | a. m..... | 8.30       |          | 9.00    | 6.30   |        |           |             |
|        | p. m..... |            |          |         |        |        |           |             |
| 18.... | a. m..... |            |          |         |        |        |           |             |
|        | p. m..... | 5.30       |          | 3.00    |        |        |           | 4.30        |
| 19.... | a. m..... |            |          |         |        |        | 4.30      | 10.00       |
|        | p. m..... |            | 3.30     | 9.30    |        |        |           | 5.30        |
| 20.... | a. m..... |            |          |         | 6.00   | 6.30   |           |             |
|        | p. m..... | 7.30       |          | 6.30    |        |        |           | 8.00        |
| 21.... | a. m..... | 10.30      |          |         |        |        |           |             |
|        | p. m..... |            | 12.15    |         | 7.30   |        |           |             |
| 22.... | a. m..... |            |          | 11.00   | 8.30   |        |           | 9.30        |
|        | p. m..... | 5.30       |          |         |        |        |           | 2.30, 5.00  |
| 23.... | a. m..... | 11.30      |          |         | 7.00   |        | 9.30      |             |
|        | p. m..... |            |          |         |        |        |           | 7.30        |
| 24.... | a. m..... | 9.30       |          | 4.30    | 6.30   |        |           | 11.30       |
|        | p. m..... |            | 12.30    |         |        |        |           | 4.00        |
| 25.... | a. m..... |            |          | 9.30    |        |        |           | 7.30, 9.30  |
|        | p. m..... |            | 1.30     |         | 8.30   | 9.30   |           | 12.30, 5.00 |
| 26.... | a. m..... |            |          |         |        |        |           |             |
|        | p. m..... | 7.30       |          | 4.30    |        |        |           |             |
| 27.... | a. m..... | 8.30       |          | 11.00   | 7.00   |        |           |             |
|        | p. m..... |            |          |         |        |        |           |             |
| 28.... | a. m..... |            |          |         |        |        |           |             |
|        | p. m..... | 3.30       |          |         | 5.30   |        |           | 2.30, 5.30  |
| 29.... | a. m..... |            |          |         |        |        |           | 11.30       |
|        | p. m..... | 4.00       |          |         |        |        |           |             |
| 30.... | a. m..... |            |          |         |        |        |           |             |
|        | p. m..... | 7.00       |          | 4.30    |        | 10.30  |           | 2.30, 7.30  |
| 31.... | a. m..... |            |          | 11.30   |        |        |           |             |
|        | p. m..... | 2.30       |          |         | 9.30   |        |           |             |







REPORT

OF THE

ACTING SUPERINTENDENT

OF THE

YELLOWSTONE NATIONAL PARK

TO THE

SECRETARY OF THE INTERIOR.

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1897.

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WASHINGTON:  
GOVERNMENT PRINTING OFFICE.

1897.



REPORT  
OF THE  
ACTING SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK.

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YELLOWSTONE NATIONAL PARK,  
OFFICE OF THE SUPERINTENDENT,  
*Mammoth Hot Springs, Wyo., August 31, 1897.*

SIR: I have the honor to submit the following report of the condition of affairs and of the management of the Yellowstone National Park for the period from June 23 to August 30, 1897.

The letter of instructions from the Department, dated June 17, 1897, authorizing me to assume charge of the Yellowstone National Park as its acting superintendent, was received by me on June 22, and my administration of affairs commenced on June 23.

The two troops of the Fourth Cavalry that marched from Fort Walla Walla, Wash., on May 20, en route to relieve the two troops of the Sixth Cavalry in the park, did not arrive within the park boundary until June 26. On the 27th they arrived at the lower or Fountain Geyser Basin. Accompanied by my predecessor, Capt. George S. Anderson, Sixth Cavalry, I met the squadron, Fourth Cavalry, on June 27 in the lower Geyser Basin, caused copies of the rules, regulations, and orders to be read and distributed to the officers and men, and gave orders for the proper instructions and posting of detachments to relieve without delay the outpost detachments of the Sixth Cavalry. On July 6 the last outpost detachment of the Sixth Cavalry arrived at Fort Yellowstone from Snake River, and July 8 Captain Anderson, with his squadron, Sixth Cavalry, marched from Fort Yellowstone, en route to Fort Robinson, Nebr.

After my arrival in the park and while awaiting my letter of instructions from the Department my time was occupied in inspecting the outstations, routes of travel, roads, and bridges in the park, and gathering information of the winter and summer habitats of game, numbers of the different species, etc. In the meantime the work of opening the roads for travel progressed under the direction of Captain Anderson, and on June 1 the main route of travel from the north boundary, commencing at Gardiner, going via Mammoth Hot Springs through Golden Gate to Norris Geyser Basin, thence via the Fountain, Upper Geyser Basin, the Thumb, Lake, and Canyon back to Norris Geyser Basin, was open for tourists; also the road from west boundary. The road from the south boundary up Snake River was not open until the latter part of June for wagon transportation.



After commencement of the fiscal year three crews were organized, and the work of repairing roads already opened was prosecuted vigorously. Assistant Engineer Fowble with a small crew continued the work of determining the altitudes at each milepost. All of this was continued to completion under my general direction, and the crews were put to work on the new roads. Seven new bridges have been built, as follows: Over Trout Creek; over Firehole River, at Riverside Geyser; over ravine near west thumb of lake; over Gibbon River, in Virginia Meadows; over Green Creek; footbridge over Firehole River, near Biscuit Basin, and over East Gardiner above the Undine Falls for new road leading from Mammoth Hot Springs to Cooke City; a new bridge is in process of construction over Middle Gardiner on same road. Nine bridges have been repaired, 55 new culverts have been built—some to replace old ones—and 10 have been repaired. Detailed reports are made of this work from time to time to the Quartermaster-General of the Army, and detailed estimates of cost for next year's work are now being prepared and will be forwarded to the Quartermaster-General when completed.

These estimates will embrace the cost of completing, in a substantial manner, the road down the canyons of Lewis and Snake rivers from Thumb Station to the southern boundary of the timber reserve near Jackson's Lake; the road from Mammoth Hot Springs to Cooke City, including combination bridges over Yellowstone and Lamar rivers; projected road from commencement of Grand Canyon, near Canyon Hotel, to Yancey's; Riverside Station to west boundary; for substantial stone or wooden guards on all completed roads at dangerous places (brinks of precipices, etc.); saddle trails to various points of interest; employment of four expert mountaineers, hunters and trappers, as scouts and gamekeepers; annual repairs to roads and bridges, etc.; in all about \$250,000.

During the month of July the main roads were in excellent condition, but the unprecedented travel and absence of rain caused those portions of the road made over geyserite to pulverize and break into ugly chuck holes that could not be seen for the dust, causing frequent discomfort to travelers. The remedy for this will be a heavy top dressing of gravel, which will be applied after the close of travel, provided there remains a sufficient balance of the appropriation that may be applied to this purpose.

#### TRAVEL.

The aggregate number of tourists visiting the park from opening of season (June 1) to August 20 was 8,720. The aggregate number carried through the park over the regular route, by the Yellowstone National Park Transportation Company, was 3,842; those carried by C. J. Bassett, via Beaver Canyon, 59; and by David A. Curry, over the same route, 43; aggregate number carried through by licensed transportation of personally conducted camping parties, 1,255; the aggregate number carried through in private transportation, 3,327; bicyclers, foot travelers, etc., 194. The number of persons taking the trip on Yellowstone Lake who came into the park by the regular transportation company was 1,667; the number of persons taking this trip who went through the park with camping parties was 922.

During the very heavy travel it became necessary to station guards at frequent intervals on the roads to prevent accident and imposition and preserve good order. It was impossible, with such great fields of camps, always to fix the responsibility of unclean camps and unextin-

guished fires on the proper parties. In order to prevent undue monopoly of the choicest camping places, parties were not permitted to camp longer than two days in one place. The campers became so numerous between Gardiner and Mammoth Hot Springs that I was obliged to prohibit camping or grazing of stock in that section after August 1, in order to preserve the grass for the antelope and mountain sheep which winter there. Thoughtless or intentional violations of the rules and regulations and instructions to tourists were very few in comparison to the number of visitors. The foolish desire to write names in conspicuous places, so far as may be judged by manifestations during the season, seems to be limited to the class of campers whose opportunity for education has been very limited or neglected; no cases of violation or trespass by passengers of the regular transportation company have been reported, the result, no doubt, of careful drivers and guides from the hotels. The presence of a United States commissioner in the park and the speedy trial of a trespasser has a wholesome and deterrent effect. A statement of the cases brought before the commissioner is appended (Appendix A).

#### LEASES.

No violation of stipulations in any lease has come to my knowledge. On July 30 Mrs. Jennie H. Ash forwarded through this office \$30, in payment of rent for year ending August 7, 1898, on lease dated August 7, 1895; no other rentals have been paid through this office. Upon inquiry it is learned that all other rentals due on leases have been paid direct to the Department in Washington.

During the present season Mr. F. Jay Haynes has erected a log-cabin studio in the Upper Geyser Basin, on ground leased April 18, 1896. This cabin is the most beautiful and most appropriate in the park. The logs for side walls were sawed from native live pine on three sides; the fourth or outer side of each log was peeled and shaped with drawknife. After being placed they are held in contact and shape with hardwood maple pins. The inside is finished with Wise basswood, and floored with Oregon pine, oiled. The roof is made of Washington cedar shingles,  $4\frac{1}{2}$  inches to the weather. Size of building, 24 by 50 feet, with addition 16 by 16 feet—one story, with 10-foot walls; a shingled porch 10 feet wide along entire east front. The cabin is rustic in appearance throughout.

A two-story frame building, 20 by 30 feet, has been erected by Mr. H. E. Klammer on a site surveyed and platted in Upper Geyser Basin, under a lease to be issued by the Department, but which has not as yet been received. These buildings were commenced under the administration of my predecessor.

The old structures used for dairy purposes, a mile distant in the hills above the Mammoth Hotel and in close proximity to the source of water supply for the hotel, were torn down and the debris burned as a sanitary measure. Dairy conveniences were constructed in Swan Lake Flat, 4 miles distant and out of sight from road, where grass is plentiful, drainage safe, and where snow lies too deep for game to feed in winter.

A statement of the leases now held in the park is hereto appended (Appendix B).

#### HOTELS.

A thorough inspection of all the hotels and lunch stations was made in June. The conditions as to cleanliness, neatness, and good order were excellent. Mr. J. H. Dean, the president, general manager, and



superintendent of all hotels and lunch stations, seems in every way thoroughly equipped for his duties and, to my observation, is unexceptionally polite, gentlemanly, and obliging to all patrons. He has good and capable managers at all hotels and makes frequent and thorough inspections during the period of travel. The food is of excellent quality, well cooked and well served, the table linen unexceptionable, and the tables decorated with beautiful wild flowers in their season. The heavy outlay required by this association in order to be prepared for any and all contingencies may be inferred from the subjoined record. (Appendix C.)

REGULAR PARK TRANSPORTATION.

A thorough inspection of the coaches, surries, stables, harness rooms, repair and paint shops, was made at the beginning of the season and everything was found to be in excellent condition, employees well organized, work systematized, and to all appearances a thorough discipline maintained. At the date of this first inspection I found present, ready for business, 1 superintendent of stages, 1 foreman of stables, 1 railroad trainman, 1 agent for each hotel in the park, 3 blacksmiths, 1 wagon maker (for repairing), 1 painter, 1 washer, 8 stable men, 2 day herders, 1 night herder, 2 six-horse Concord coaches, 31 four-horse Concord coaches, 4 two-horse surries, 37 drivers, and 144 well-groomed horses. During the month of July another inspection was made, and I found in service 83 regular drivers, 155 temporarily employed drivers, 2 six horse coaches, 83 four-horse coaches and spring wagons, 53 two-horse surries and spring wagons, 22 four-horse and 78 two-horse vehicles in temporary employ, 282 regular team horses, and 412 employed team horses. This does not include extra teams at park stations, nor teams for baggage, for driving to the formations, freighting, etc.

I have always found Mr. S. S. Huntley and his assistants efficient, polite, and obliging. Mr. Huntley is the best manager and handler of coach transportation it has ever been my pleasure to observe. The passenger plant of this company comprises:

|                             | Num-ber. | Seating capacity. |        |
|-----------------------------|----------|-------------------|--------|
|                             |          | Each.             | Total. |
| Coaches .....               | 2        | 20                | 40     |
| Do.....                     | 30       | 11                | 330    |
| Do.....                     | 22       | 8                 | 176    |
| Surries .....               | 17       | 3                 | 51     |
| Mountain wagons.....        | 10       | 5                 | 50     |
| Spring wagons.....          | 5        | 5                 | 25     |
| Wagonettes .....            | 3        | 10                | 30     |
| Buckboard surreys.....      | 1        | 10                | 10     |
| Do.....                     | 1        | 9                 | 9      |
| Do.....                     | 1        | 5                 | 5      |
| Do.....                     | 1        | 3                 | 3      |
| Total seating capacity..... |          |                   | 729    |

Total number of horses..... 557

The Lake Boat Company transacted business, so far as my observation extended, in a satisfactory manner. I made several trips on the boat during the season—one in a severe windstorm—and the boat showed herself to be a staunch craft; every portion appeared neat and clean, the employees respectful, and the master, Mr. E. C. Waters, polite, courteous, and obliging. The boat carried of all classes 2,589 passengers on the regular trips, besides many excursion parties of which I have no record.



## PROTECTION.

The troops placed under my command for protecting the park were strangers to the geographical and topographical features of the country, and, as already stated, arrived within the park boundary on June 27. The important duties of registering travelers, sealing guns, making out permits, with statements as to intended camps, taking accurate descriptions of arms, inspecting wagons for durability and safety, giving necessary information to visitors, etc., are entirely different from the ordinary routine duties of camp and garrison and require time to become familiar with.

In addition to all these, as the travel rapidly increased, a constant patrol on the roads was necessary to see that camp fires were extinguished, camping grounds left clean, and objects of interest and great natural wonders uninjured. These latter being so numerous and the crowds of visitors and campers becoming so great, in July it required my entire force to protect them and enforce the regulations on the main traveled road. Fully impressed with the necessity for an additional force to enable me to guard the park properly, application was made to the Adjutant-General of the Army on July 14 for an additional force of one troop of cavalry or one company of infantry. This application was not favorably considered, and two important summer outposts had to be abandoned. Knowing the futility of attempting to give adequate protection to the greatest game park in the world, in which are located the greatest wonders of the world, an area (including annexed timber reserve) of 5,000 square miles, I did not hesitate to employ the services of expert hunters, trailers and trappers, for this purpose, and also for the purpose of instructing the soldiers in this duty. It requires the knowledge of an expert hunter, acquainted with the habits and habitats of game, to catch a poacher of large game, and it requires an old trapper to catch a trapper.

On the 14th of August six of the Yellowstone Park Transportation Company's coaches and one United States Dougherty spring wagon were held up by two masked and well armed highwaymen and the occupants robbed of over \$500. The robbery occurred between 9 and 10 a. m., on the road leading from the Canyon to Norris Geyser Basin, at a point about 3 miles from the Canyon Hotel, on the Solfatara Plateau. Report of the occurrence reached me at Mammoth Hot Springs about noon. All the means at my disposal—in addition to assurance of a money reward which was not at my disposal—were placed in active operation and continued until the robbers were duly arrested and placed in safe confinement, on the night of August 29. The preliminary examination is set for September 10 before United States Commissioner Meldrum in the park. The history of this case, including result of preliminary hearing, will be the subject of a special report.

There has been but one fire so far this season. A smoke was discovered by a scout from the top of Lake Hotel on August 24 and information by wire reached me at Lower Geyser Basin in the evening. Orders were dispatched by courier to the camp below Fountain Hotel and by wire to Fort Yellowstone. Following is the report of senior officer sent to find and extinguish it:

FORT YELLOWSTONE, WYO., *August 31, 1897.*

SIR: I have the honor to report that, pursuant to verbal orders from Captain Erwin, commanding this post, I left the post at 10 o'clock p. m. on August 24, with Scout Burgess, 11 privates of Troop H, Fourth Cavalry, 4 pack mules, and 110 rations, to find and put out a fire on Astrigent Creek. We reached the Canyon Station at 4.40 a. m. the 25th instant, made coffee for the men, and fed the stock. We left the

Canyon at 6 a. m. Burgess accompanied us as far as the Mud Geyser and returned from there. At the ford I found Sergeant Simons, Fourth Cavalry (Troop D), who said that the fire appeared to be on the Sulphur Hills. We crossed the Yellowstone at the Diamond Ford and went up Pelican Creek to the Sulphur Hills, which we reached at 10 a. m. There was no sign of fire; I spent two hours looking for it, and went into camp at 12 m. on a creek 2 miles west of Astringent Creek. Lieutenant Hawkins reported to me at 2 p. m. with the first sergeant and 8 privates of Troop D, Fourth Cavalry. Lieutenant Hawkins had left the camp at Lower Basin with his detachment at 7 p. m. the previous evening. He had no rations and his detachment was fed from the supplies I had brought. Lieutenant Hawkins and I rode and walked to the north of Sulphur Hills and walked to within 100 yards of the edge of the fire, but without discovering it.

On the 26th I sent the sergeant up the creek on which we were camped, with orders to climb the highest hill he could find and look for signs of the fire. He returned at noon and reported that he got lost and returned to camp accidentally. I also sent two men up Astringent Creek, while Lieutenant Hawkins and I climbed the butte between Astringent and Pelican creeks on foot. Scout Morrison came in about noon, and thought the fire must have been up Pelican Creek. That afternoon, from the divide between Astringent and Pelican creeks, we discovered signs of fire on a hill to the west, and started for the place, riding by the sun. Owing to the almost impassable nature of the country, we had to make a detour, and missed the place by a mile. The next morning, the 27th, we found the fire at 9.30 a. m. It began near the head of the creek that empties into Pelican at the Vermilion Springs and ran northeast over the hill to the head of a branch that comes into Pelican 2 miles below the mouth of Astringent Creek. The fire was three-quarters of a mile long and not over 100 yards wide in any place. Over about an acre it had been in the tree tops; the rest of the area it had only burned the fallen timber and done no damage. It was only smoldering, and at 3 p. m. it was practically extinguished. I had camp moved to within a half mile of the fire, and sent Lieutenant Hawkins home with all but seven men. At dark that night it appeared to be completely extinguished.

On the 28th I kept two men on the ground burying every bit of fire that appeared, and on the morning of the 29th I went carefully over the whole ground and found fire in fourteen different places, none bigger than a man's hand. I left two men to watch the fire and brought the rest of the detachment to the Canyon, and returned to the post on the 30th. On this date two men from the Lake Station returned to the scene of the fire, and to-day, the 31st, two men have gone there to extinguish any fire that may be left.

I circled the fire carefully on foot, searching for the trail of any party that might have left it. There was no trail near it. It was in a country very difficult to traverse, and there was no water within a half mile of the fire. There was no sign of lightning having started it, and it must have started from spontaneous combustion in a decaying log, or from friction of two dry trees rubbed together by the wind.

The detachment marched about 130 miles, the first 50 of which was made in twelve hours and with a pack train. The horses returned in good condition.

Respectfully submitted.

ELMER LINDSLEY,  
*Second Lieutenant, Fourth Cavalry.*

The ACTING SUPERINTENDENT YELLOWSTONE NATIONAL PARK.

#### GAME.

The prevailing impression is that game, buffalo excepted, is increasing in numbers. The black bear have increased rapidly, and have become very annoying. Complaints have come in from Norris Lunch Station, Fountain Hotel, Thumb Lunch Station, Lake Hotel, and from the station of a detachment of soldiers at the Canyon that bears have broken into their storehouses and destroyed meat and other provisions in large quantities. It is a common occurrence to see from 6 to 12 bears any afternoon feeding on the garbage dumps within a few hundred yards of the Fountain Hotel. Among the number is 1 large grizzly. At Norris, Fountain, Thumb, Lake, and Canyon lunch stations and hotels the bears feed daily on the garbage from the kitchens. At least 12 bears might be disposed of to responsible zoological gardens, where desired, for the expense of capturing, which would be small.

The number of buffalo is estimated at 24. An expert hunter, equipped



with a good knowledge of the park, as well as of the habits and habitats of the game therein, is engaged in making thorough observations with a view of estimating closely the number of each species within the park boundaries, including annexed timber reserve. The result of these observations will be included in my supplemental report for this season.

I have consulted with Dr. Frank Baker, superintendent of the National Zoological Park, at Washington, as to the advisability and practicability of corraling the remaining buffalo in the park with a view to their preservation and increase, and our concurrent conclusion is that it has been the experience of most persons engaged in the capture and domestication of wild animals that while the young of two classes to which the buffalo belong may be caught and confined with usually successful results, it is otherwise with adult animals, a large proportion of which fail to adapt themselves to even slight restraint, and die in consequence. As to the practicability, the buffalo remaining in the park are now scattered in very small herds at a number of points far remote from each other. They are mostly in rough, rugged regions, where they could not safely be captured alive, and their ranges are separated by mountains, streams, and canyons of such impassable character that their transportation could not be accomplished without great injury and loss. Even were the advisability of the project free from doubt, the difficulties in the way of its successful accomplishment appear to be insuperable.

The coyotes are numerous and bold. It is estimated that of a herd of 500 antelope that wintered in the valley of the Gardiner and on the slopes of Mount Everts 75 (15 per cent of the herd) were killed by coyotes during the past winter, and many antelope fawns, elk calves, and broods of grouse have been destroyed by them this season. The opinion has been advanced by a few of the friends of the park that if the coyote is exterminated the gopher in time would eradicate the grass from the winter valley ranges. I do not concur in this opinion, and request authority to reduce the number so that they will not hunt in packs.

#### FISH.

This subject will be discussed in my supplemental report.

#### CARRYING FIREARMS.

The custom of carrying firearms through the park has been almost universal among those who live in the neighboring States and travel in their own conveyances or on saddle animals accompanied by pack animals. During the first half of the season it was found that many firearms, fastened with red tape and sealing wax at the point of entry, had broken seals at the point of exit. In many cases it was evident that the seals were broken by accident; others showed signs of having been broken and resealed. To remedy this a new system of sealing has been adopted similar to that used by express companies, and the practice of using red tape and sealing wax has been discontinued.

The regulation prohibiting firearms in the park, except on written permission from the superintendent, has been strictly enforced. It is essential to the best interests of the park.

A certain sentiment of hostility toward the park and of antagonism toward the efforts of the authorities to protect the wild animals from destruction has existed and continues to exist among the ranchers and the people of the settlements near the park boundaries. This feeling



of hostility seems to be due to an idea, which prevails widely, that a reservation of any part of the public domain for the perpetual benefit of the whole people is an invasion and an abridgment of the private rights of the people of the adjoining region. This idea naturally arises from an ignorance of the benefits that result from such reservations to the people of the whole country and an equal ignorance of the advantages which accrue to the inhabitants of the immediate vicinity. In consequence of the benefits which have already resulted to this region from the existence of this park as a breeding place from which the surplus game may wander down into the adjoining country where it may be freely taken, and from the opportunities afforded by the park for remunerative employment during the summer season, there is already a marked diminution of this hostile feeling. As these benefits come to be better understood I believe that this hostility will further diminish, and my best efforts shall be devoted to the encouragement of a friendly sentiment toward the park among the citizens of the surrounding country.

I forward herewith latest map of the park, including the annexed timber reserve, showing roads completed, roads projected, roads under construction, roads available but not yet used by the Park Transportation Company, saddle trails, and old wagon trails that may be used as saddle trails.

Several important matters not referred to in this report will be the subjects of special reports, to be submitted at the close of the season. I submit herewith the meteorological record as kept at Fort Yellowstone by the post surgeon, together with a copy of the latest rules and regulations of the park, existing orders, and forms of licenses and permits.

Very respectfully,

S. B. M. YOUNG,

*Colonel Third Cavalry, Acting Superintendent.*

THE SECRETARY OF THE INTERIOR.

| JULY, 1896.   |          |          |        |        |                | AUGUST, 1896. |   |          |          |        |        | SEPTEMBER, 1896. |          |   |          |          |        |        |                |          |
|---|----------|----------|--------|--------|----------------|---------------|---|----------|----------|--------|--------|------------------|----------|---|----------|----------|--------|--------|----------------|----------|
| Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.      | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation.   | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. |
| 1.....  | 78       | 47       | 31     | S.     | .....          |               | 1.....  | 82       | 43       | 39     | SE.    | .....            |          | 1.....  | 61       | 45       | 16     | SW.    | .....          |          |
| 2.....  | 70       | 48       | 22     | S.     | .....          |               | 2.....  | 78       | 52       | 26     | S.     | .....            |          | 2.....  | 64       | 44       | 20     | S.     | .....          |          |
| 3.....  | 76       | 43       | 33     | S.     | .....          |               | 3.....  | 79       | 44       | 35     | S.     | .....            |          | 3.....  | 69       | 39       | 30     | W.     | .....          |          |
| 4.....  | 84       | 44       | 40     | S.     | .....          |               | 4.....  | 65       | 45       | 20     | SW.    | .....            |          | 4.....  | 72       | 45       | 27     | S.     | .....          |          |
| 5.....  | 88       | 49       | 39     | S.     | .....          |               | 5.....  | 74       | 38       | 36     | S.     | 0.03             | Rain.    | 5.....  | 81       | 41       | 40     | S.     | .....          |          |
| 6.....  | 88       | 52       | 36     | S.     | .....          |               | 6.....  | 77       | 43       | 34     | SE.    | .....            |          | 6.....  | 81       | 44       | 37     | S.     | .....          |          |
| 7.....  | 84       | 58       | 26     | S.     | .....          |               | 7.....  | 67       | 49       | 18     | S.     | 0.06             | Rain.    | 7.....  | 78       | 48       | 30     | S.     | .....          |          |
| 8.....  | 86       | 49       | 37     | S.     | .....          |               | 8.....  | 72       | 37       | 35     | SE.    | .....            |          | 8.....  | 72       | 37       | 35     | NW.    | .....          |          |
| 9.....  | 87       | 52       | 35     | S.     | .....          |               | 9.....  | 72       | 40       | 32     | S.     | .....            |          | 9.....  | 40       | 30       | 10     | NW.    | .....          |          |
| 10.....   | 86       | 51       | 35     | S.     | .....          |               | 10.....   | 77       | 43       | 34     | S.     | .....            |          | 10.....   | 42       | 21       | 21     | NW.    | .....          |          |
| 11.....   | 85       | 54       | 31     | S.     | 0.06           | Rain.         | 11.....   | 77       | 35       | 42     | NW.    | .....            |          | 11.....   | 48       | 33       | 15     | S.     | .....          |          |
| 12.....   | 77       | 52       | 25     | NW.    | .67            | Rain.         | 12.....   | 77       | 36       | 41     | S.     | .....            |          | 12.....   | 49       | 34       | 15     | S.     | .....          |          |
| 13.....   | 77       | 52       | 25     | E.     | .....          |               | 13.....   | 77       | 38       | 39     | N.     | .....            |          | 13.....   | 57       | 31       | 26     | SW.    | .....          |          |
| 14.....   | 81       | 57       | 24     | S.     | .29            | Rain.         | 14.....   | 84       | 40       | 44     | S.     | .....            |          | 14.....   | 72       | 35       | 37     | S.     | .....          |          |
| 15.....   | 82       | 50       | 32     | SE.    | .25            | Rain.         | 15.....   | 81       | 46       | 35     | S.     | .....            |          | 15.....   | 73       | 38       | 35     | S.     | .....          |          |
| 16.....   | 79       | 51       | 28     | SE.    | .....          |               | 16.....   | 71       | 50       | 21     | S.     | .....            |          | 16.....   | 65       | 35       | 30     | SE.    | .....          |          |
| 17.....   | 79       | 49       | 30     | S.     | .....          |               | 17.....   | 84       | 48       | 36     | NW.    | 0.06             | Rain.    | 17.....   | 51       | 31       | 20     | S.     | .....          |          |
| 18.....   | 83       | 46       | 37     | S.     | .....          |               | 18.....   | 82       | 48       | 34     | SW.    | .....            |          | 18.....   | 50       | 34       | 16     | N.     | .....          |          |
| 19.....   | 73       | 46       | 27     | SE.    | .....          |               | 19.....   | 85       | 53       | 32     | S.     | .....            |          | 19.....   | 68       | 30       | 38     | S.     | .....          |          |
| 20.....   | 81       | 45       | 36     | SE.    | .....          |               | 20.....   | 72       | 50       | 22     | S.     | .....            |          | 20.....   | 72       | 34       | 38     | SW.    | .37            | Rain.    |
| 21.....   | 64       | 46       | 18     | N.     | .....          |               | 21.....   | 65       | 53       | 12     | NW.    | .....            |          | 21.....   | 67       | 45       | 22     | SE.    | .....          |          |
| 22.....   | 67       | 44       | 23     | N.     | .37            | Rain.         | 22.....   | 65       | 30       | 35     | NW.    | .....            |          | 22.....   | 76       | 38       | 38     | S.     | .....          |          |
| 23.....   | 60       | 43       | 17     | E.     | .....          |               | 23.....   | 76       | 34       | 42     | S.     | .....            |          | 23.....   | 64       | 42       | 22     | SW.    | .22            | Rain.    |
| 24.....   | 70       | 37       | 33     | S.     | .....          |               | 24.....   | 80       | 40       | 40     | S.     | .....            |          | 24.....   | 53       | 41       | 12     | NW.    | .23            | Rain.    |
| 25.....   | 76       | 47       | 29     | SE.    | .01            | Rain.         | 25.....   | 73       | 46       | 27     | W.     | .....            |          | 25.....   | 43       | 36       | 7      | NW.    | .....          |          |
| 26.....   | 72       | 45       | 27     | E.     | .....          |               | 26.....   | 81       | 40       | 41     | S.     | .....            |          | 26.....   | 44       | 26       | 18     | E.     | .....          |          |
| 27.....   | 74       | 42       | 32     | S.     | .02            | Rain.         | 27.....   | 84       | 42       | 42     | S.     | .....            |          | 27.....   | 60       | 25       | 35     | NW.    | .....          |          |
| 28.....   | 64       | 52       | 12     | SE.    | .07            | Rain.         | 28.....   | 86       | 48       | 38     | W.     | .....            |          | 28.....   | 70       | 27       | 43     | S.     | .....          |          |
| 29.....   | 76       | 41       | 35     | S.     | .35            | Rain.         | 29.....   | 84       | 51       | 33     | S.     | .....            |          | 29.....   | 69       | 32       | 37     | SE.    | .....          |          |
| 30.....   | 70       | 41       | 29     | S.     | .....          |               | 30.....   | 84       | 50       | 34     | S.     | .22              | Rain.    | 30.....   | 70       | 32       | 38     | S.     | .....          |          |
| 31.....   | 77       | 43       | 34     | S.     | .....          |               | 31.....   | 75       | 47       | 28     | N.     | .....            |          | 31.....   | 70       | 32       | 38     | S.     | .....          |          |
| Total.  | 2,394    | 1,476    | 918    | .....  | 2.09           |               | Total.  | 2,386    | 1,359    | 1,027  | .....  | .....            |          | Total.  | 1,881    | 1,073    | 808    | .....  | 1.10           |          |
| Mean.   | 77.22    | 47.61    | 29.61  | S.     | .....          |               | Mean.   | 76.96    | 43.83    | 33.13  | S.     | .....            |          | Mean.   | 62.70    | 35.76    | 26.94  | S.     | .....          |          |
| Maximum 88°, on 5th and 6th instant; minimum 37°, on 24th instant; mean, 62.41°; precipitation, 2.09; winds, south. |          |          |        |        |                |               | Maximum 86°, on 28th instant; minimum 30°, on 22d instant; mean, 60.39°; precipitation, 0.37; winds, south. |          |          |        |        |                  |          | Maximum 81°, on 5th and 6th instant; minimum 21°, on 10th instant; mean, 49.23°; precipitation, 1.10; winds, south. |          |          |        |        |                |          |

## METEOROLOGICAL REGISTER, FORT YELLOWSTONE, WYO.—Continued.

| OCTOBER, 1896. |          |          |        |        |                | NOVEMBER, 1896. |         |          |          |        |        | DECEMBER, 1896. |             |         |          |          |        |        |                |              |
|----------------|----------|----------|--------|--------|----------------|-----------------|---------|----------|----------|--------|--------|-----------------|-------------|---------|----------|----------|--------|--------|----------------|--------------|
| Date.          | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.        | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation.  | Remarks.    | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.     |
| 1.....         | 73       | 35       | 38     | S.     | .....          |                 | 1.....  | 30       | 25       | 5      | NE.    | 0.60            | Snow.       | 1.....  | 30       | 10       | 20     | SE.    | .....          |              |
| 2.....         | 72       | 37       | 35     | SE.    | .....          |                 | 2.....  | 32       | 24       | 8      | SE.    | .05             | Snow.       | 2.....  | 34       | 22       | 12     | SE.    | .....          |              |
| 3.....         | 61       | 38       | 23     | S.     | 0.06           | Rain.           | 3.....  | 34       | 20       | 14     | SE.    | .07             | Snow.       | 3.....  | 36       | 27       | 9      | SE.    | .....          |              |
| 4.....         | 55       | 24       | 31     | E.     | .....          |                 | 4.....  | 28       | 21       | 7      | S.     | .02             | Snow.       | 4.....  | 39       | 30       | 9      | E.     | .....          |              |
| 5.....         | 52       | 26       | 26     | S.     | .....          |                 | 5.....  | 21       | 15       | 6      | SE.    | .....           |             | 5.....  | 33       | 25       | 8      | SE.    | .....          |              |
| 6.....         | 59       | 20       | 39     | S.     | .....          |                 | 6.....  | 24       | 2        | 22     | NE.    | .....           |             | 6.....  | 30       | 15       | 15     | SE.    | 0.15           | Snow.        |
| 7.....         | 64       | 22       | 42     | S.     | .....          |                 | 7.....  | 20       | 1        | 19     | NE.    | .....           |             | 7.....  | 27       | 16       | 11     | SW.    | .....          |              |
| 8.....         | 56       | 31       | 25     | SW.    | .....          |                 | 8.....  | 33       | 3        | 30     | SE.    | .10             | Snow.       | 8.....  | 32       | 18       | 15     | SW.    | .....          |              |
| 9.....         | 45       | 30       | 15     | NW.    | .....          | Snow traces.    | 9.....  | 31       | 21       | 10     | SE.    | .25             | Snow.       | 9.....  | 39       | 26       | 13     | SE.    | .....          |              |
| 10.....        | 60       | 24       | 36     | S.     | .....          |                 | 10..... | 32       | 10       | 22     | NE.    | .10             | Snow.       | 10..... | 43       | 24       | 19     | S.     | .....          |              |
| 11.....        | 58       | 25       | 33     | S.     | .....          |                 | 11..... | 29       | 11       | 18     | NE.    | .....           |             | 11..... | 40       | 22       | 18     | S.     | .....          |              |
| 12.....        | 59       | 27       | 32     | SW.    | .....          |                 | 12..... | 36       | 15       | 21     | S.     | .....           |             | 12..... | 39       | 22       | 17     | SW.    | .....          |              |
| 13.....        | 60       | 28       | 32     | S.     | .....          |                 | 13..... | 42       | 18       | 24     | SE.    | .....           |             | 13..... | 38       | 30       | 8      | S.     | .10            | Snow.        |
| 14.....        | 63       | 27       | 36     | NE.    | .....          |                 | 14..... | 47       | 34       | 13     | S.     | .....           |             | 14..... | 33       | 16       | 17     | SE.    | .02            | Snow.        |
| 15.....        | 61       | 31       | 30     | S.     | .....          |                 | 15..... | 50       | 38       | 12     | S.     | .....           |             | 15..... | 40       | 25       | 15     | S.     | .10            | Snow.        |
| 16.....        | 62       | 28       | 34     | SE.    | .....          |                 | 16..... | 47       | 40       | 7      | SW.    | .....           |             | 16..... | 31       | 15       | 16     | S.     | .....          |              |
| 17.....        | 68       | 33       | 35     | SE.    | .....          |                 | 17..... | 43       | 37       | 6      | SW.    | .03             | Rain.       | 17..... | 34       | 17       | 17     | SE.    | .....          |              |
| 18.....        | 64       | 31       | 33     | S.     | .....          |                 | 18..... | 25       | 19       | 6      | S.     | .35             | Snow, rain. | 18..... | 31       | 16       | 15     | SE.    | .....          |              |
| 19.....        | 56       | 29       | 27     | SE.    | .....          |                 | 19..... | 20       | 14       | 6      | SE.    | .60             | Snow.       | 19..... | 32       | 18       | 14     | S.     | .....          |              |
| 20.....        | 59       | 27       | 32     | S.     | .....          |                 | 20..... | 25       | 7        | 18     | SE.    | .20             | Snow.       | 20..... | 36       | 21       | 15     | S.     | .....          |              |
| 21.....        | 53       | 30       | 23     | S.     | .....          |                 | 21..... | 38       | 1        | 37     | S.     | .05             | Rain.       | 21..... | 33       | 26       | 7      | SW.    | .....          |              |
| 22.....        | 53       | 31       | 22     | SE.    | .....          |                 | 22..... | 38       | 20       | 18     | SW.    | .40             | Snow.       | 22..... | 32       | 14       | 18     | SE.    | .....          |              |
| 23.....        | 55       | 22       | 33     | S.     | .....          |                 | 23..... | 27       | 19       | 8      | S.     | .....           |             | 23..... | 28       | 10       | 18     | S.     | .....          |              |
| 24.....        | 58       | 23       | 35     | S.     | .....          |                 | 24..... | 22       | 17       | 5      | N.     | .80             | Snow.       | 24..... | 41       | 20       | 21     | S.     | .....          |              |
| 25.....        | 56       | 30       | 26     | S.     | .....          |                 | 25..... | — 2      | — 5      | 3      | NE.    | .30             | Snow.       | 25..... | 39       | 21       | 18     | SE.    | .....          |              |
| 26.....        | 46       | 27       | 19     | SE.    | .....          |                 | 26..... | — 10     | — 15     | 5      | NE.    | .....           |             | 26..... | 35       | 13       | 22     | S.     | .....          |              |
| 27.....        | 39       | 27       | 12     | S.     | .....          |                 | 27..... | — 11     | — 26     | 15     | NE.    | .....           |             | 27..... | 36       | 25       | 11     | S.     | .....          |              |
| 28.....        | 39       | 26       | 13     | S.     | .....          |                 | 28..... | — 4      | — 27     | 23     | SE.    | .....           |             | 28..... | 40       | 26       | 14     | SW.    | .....          | Snow traces. |
| 29.....        | 40       | 21       | 19     | SW.    | .....          |                 | 29..... | 11       | — 17     | 28     | SE.    | .....           |             | 29..... | 35       | 22       | 13     | W.     | .....          |              |
| 30.....        | 40       | 19       | 21     | S.     | .....          | Snow traces.    | 30..... | 18       | — 15     | 33     | SE.    | .....           |             | 30..... | 34       | 15       | 19     | SE.    | .....          |              |
| 31.....        | 38       | 20       | 18     | SW.    | .....          |                 | 31..... | .....    | .....    | .....  | .....  | .....           |             | 31..... | 31       | 23       | 8      | SE.    | .07            | Snow.        |
| Total.         | 1,724    | 749      | 975    | .....  | .06            |                 | Total.  | 776      | 327      | 449    | .....  | 3.92            |             | Total.  | 1,081    | 630      | 451    | .....  | .46            |              |
| Mean.          | 55.61    | 24.16    | 31.45  | S.     | .....          |                 | Mean.   | 25.86    | 10.90    | 14.96  | SE.    | .....           |             | Mean.   | 34.87    | 20.32    | 14.55  | SE.    | .....          |              |

Maximum, 73° on 1st instant; minimum, 19° on 30th instant; mean, 39.88°; precipitation, 0.06; winds, south.

Maximum, 50° on 15th instant; minimum, —27° on 28th instant; mean, 18.38°; precipitation, 3.92; winds, southeast.

Maximum, 43° on 10th instant; minimum, 10° on 1st and 23d instant; mean, 27.59°; precipitation, 0.46; winds, southeast.



| JANUARY, 1897. |          |          |        |        |                | FEBRUARY, 1897. |         |          |          |        |        | MARCH, 1897.   |              |         |          |          |        |        |                |              |
|----------------|----------|----------|--------|--------|----------------|-----------------|---------|----------|----------|--------|--------|----------------|--------------|---------|----------|----------|--------|--------|----------------|--------------|
| Date.          | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.        | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.     | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.     |
| 1.....         | 19       | 9        | 10     | S.     | .....          |                 | 1.....  | 40       | 25       | 15     | S.     | .....          | Snow.        | 1.....  | 33       | 12       | 21     | NE.    | .....          |              |
| 2.....         | 11       | 0        | 11     | SE.    | 0.02           | Snow.           | 2.....  | 35       | 29       | 6      | NW.    | 0.07           |              | 2.....  | 27       | 6        | 21     | S.     | .22            | Snow.        |
| 3.....         | 12       | —        | 13     | S.     | .....          |                 | 3.....  | 34       | 15       | 19     | SW.    | .....          |              | 3.....  | 37       | 8        | 29     | S.     | .....          |              |
| 4.....         | 17       | —        | 23     | S.     | .....          |                 | 4.....  | 28       | 19       | 9      | S.     | .....          |              | 4.....  | 31       | 9        | 22     | W.     | .....          |              |
| 5.....         | 26       | 12       | 14     | SE.    | .....          |                 | 5.....  | 36       | 26       | 10     | E.     | .07            | Snow.        | 5.....  | 25       | 5        | 20     | NW.    | .67            |              |
| 6.....         | 30       | 19       | 11     | SW.    | .....          |                 | 6.....  | 36       | 26       | 10     | S.     | .12            | Snow.        | 6.....  | 9        | —        | 4      | 13     | NE.            |              |
| 7.....         | 35       | 23       | 12     | SE.    | .....          |                 | 7.....  | 33       | 20       | 13     | S.     | .....          |              | 7.....  | 26       | 2        | 28     | SW.    | .....          | Snow traces. |
| 8.....         | 40       | 19       | 21     | S.     | .....          |                 | 8.....  | 34       | 19       | 15     | S.     | .....          |              | 8.....  | 25       | 9        | 16     | S.     | .....          |              |
| 9.....         | 35       | 13       | 22     | SE.    | .....          |                 | 9.....  | 30       | 16       | 14     | S.     | .....          |              | 9.....  | 29       | 14       | 15     | S.     | .....          |              |
| 10.....        | 32       | 10       | 22     | S.     | .....          |                 | 10..... | 20       | —        | 25     | SW.    | .....          |              | 10..... | 27       | 18       | 9      | N.     | .....          |              |
| 11.....        | 25       | 7        | 18     | S.     | .....          |                 | 11..... | 29       | 12       | 17     | W.     | .....          | Snow traces. | 11..... | 22       | —        | 24     | NE.    | .10            | Snow.        |
| 12.....        | 32       | 12       | 20     | SE.    | .....          |                 | 12..... | 31       | 16       | 15     | N.     | .15            | Snow.        | 12..... | 4        | —        | 20     | NE.    | .....          | Snow traces. |
| 13.....        | 28       | 15       | 13     | SW.    | .....          |                 | 13..... | 19       | 1        | 18     | S.     | .....          |              | 13..... | 7        | —        | 24     | SW.    | .....          |              |
| 14.....        | 29       | 2        | 27     | SE.    | .....          |                 | 14..... | 24       | 5        | 19     | S.     | .....          |              | 14..... | 24       | 0        | 24     | S.     | .....          |              |
| 15.....        | 30       | 11       | 19     | SW.    | .....          |                 | 15..... | 32       | 16       | 16     | S.     | .....          |              | 15..... | 31       | 10       | 21     | S.     | .....          |              |
| 16.....        | 22       | 8        | 14     | NW.    | .10            | Snow.           | 16..... | 30       | 17       | 13     | NW.    | .....          | Snow traces. | 16..... | 39       | 5        | 34     | S.     | .....          |              |
| 17.....        | 25       | 4        | 21     | NW.    | .....          |                 | 17..... | 20       | —        | 22     | SW.    | .....          |              | 17..... | 33       | 19       | 14     | S.     | .....          |              |
| 18.....        | 25       | 10       | 15     | SE.    | .....          |                 | 18..... | 22       | —        | 32     | SW.    | .....          |              | 18..... | 34       | 25       | 9      | S.     | .....          | Snow traces. |
| 19.....        | 31       | 18       | 13     | S.     | .....          | Snow traces.    | 19..... | 33       | 9        | 24     | N.     | .30            | Snow.        | 19..... | 29       | 5        | 24     | E.     | .07            | Snow.        |
| 20.....        | 36       | 25       | 11     | S.     | .....          | Snow traces.    | 20..... | 26       | 8        | 18     | S.     | .....          | Snow traces. | 20..... | 30       | 13       | 17     | N.     | .....          |              |
| 21.....        | 40       | 32       | 8      | SW.    | .....          |                 | 21..... | 21       | —        | 23     | NW.    | .07            | Snow.        | 21..... | 23       | 10       | 13     | N.     | .....          |              |
| 22.....        | 38       | 0        | 38     | NW.    | .....          |                 | 22..... | 22       | 5        | 17     | SW.    | .....          |              | 22..... | 22       | —        | 33     | S.     | .....          | Snow traces. |
| 23.....        | 2        | —        | 20     | N.     | 1.00           | Snow.           | 23..... | 19       | 5        | 14     | SW.    | .....          |              | 23..... | 27       | 15       | 12     | S.     | .....          | Rain traces. |
| 24.....        | —        | —        | 13     | N.     | .....          |                 | 24..... | 28       | 9        | 19     | W.     | .....          |              | 24..... | 38       | 21       | 17     | S.     | .....          |              |
| 25.....        | —        | —        | 25     | N.     | .....          |                 | 25..... | 30       | 10       | 20     | NW.    | .02            | Snow.        | 25..... | 40       | 33       | 7      | S.     | .....          |              |
| 26.....        | —        | —        | 20     | SW.    | .....          |                 | 26..... | 30       | 2        | 28     | W.     | .....          |              | 26..... | 42       | 34       | 8      | NE.    | .....          | Snow traces. |
| 27.....        | 5        | —        | 26     | S.     | .....          |                 | 27..... | 36       | 16       | 20     | W.     | .....          |              | 27..... | 34       | 24       | 10     | S.     | .....          | Snow traces. |
| 28.....        | 21       | —        | 31     | S.     | .....          |                 | 28..... | 40       | 23       | 17     | S.     | .....          |              | 28..... | 40       | 27       | 13     | S.     | .....          | Snow traces. |
| 29.....        | 36       | 18       | 18     | S.     | .....          |                 | 29..... | 37       | 23       | 14     | S.     | .....          |              | 29..... | 33       | 22       | 11     | NW.    | .....          |              |
| 30.....        | 37       | 23       | 14     | S.     | .....          |                 | 30..... | 37       | 23       | 14     | S.     | .....          |              | 30..... | 25       | 17       | 8      | NW.    | .....          | Snow traces. |
| 31.....        | 35       | 20       | 15     | SW.    | .....          |                 | 31..... | 40       | 23       | 17     | S.     | .....          |              | 31..... | 34       | 19       | 15     | NW.    | .....          |              |
| Total.         | 765      | 212      | 553    | .....  | 1.12           |                 | Total.  | 818      | 330      | 488    | .....  | .80            |              | Total.  | 880      | 328      | 552    | .....  | 1.06           |              |
| Mean.          | 24.67    | 6.83     | 17.84  | S.     | .....          |                 | Mean.   | 29.21    | 11.79    | 17.42  | S.     | .....          |              | Mean.   | 28.387   | 10.580   | 17.806 | S.     | .....          |              |

Maximum, 40° on 8th and 22d instant; minimum, —29° on 26th instant; mean, 15.75°; precipitation, 1.12; winds, south.

Maximum, 40° on 1st and 28th instant; minimum, —10° on 18th instant; mean, 20.50°; precipitation, 0.80; winds, south.

Maximum, 42° on 26th instant; minimum, —17° on 13th instant; mean, 19.48°; precipitation, 1.06; winds, south.

Maximum, 40° on 8th and 22d instant; minimum, —29° on 26th instant; mean, 15.75°; precipitation, 1.12; winds, south.

Maximum, 40° on 1st and 28th instant; minimum, —10° on 18th instant; mean, 20.50°; precipitation, 0.80; winds, south.

Maximum, 42° on 26th instant; minimum, —17° on 13th instant; mean, 19.48°; precipitation, 1.06; winds, south.

## METEOROLOGICAL REGISTER, FORT YELLOWSTONE, WYO.—Continued.

| APRIL, 1897. |          |          |        |        |                | MAY, 1897.   |         |          |          |        |        | JUNE, 1897.    |              |         |          |          |        |        |                |             |
|--------------|----------|----------|--------|--------|----------------|--------------|---------|----------|----------|--------|--------|----------------|--------------|---------|----------|----------|--------|--------|----------------|-------------|
| Date.        | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.     | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.     | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.    |
| 1.....       | 34       | 15       | 19     | NE.    | .....          |              | 1.....  | 68       | 38       | 34     | S.     | .....          |              | 1.....  | 50       | 36       | 14     | S.     | 0.5            | Rain.       |
| 2.....       | 31       | 23       | 8      | N.     | .....          |              | 2.....  | 67       | 33       | 34     | NW.    | .....          |              | 2.....  | 47       | 35       | 12     | NW.    | .005           | Rain.       |
| 3.....       | 35       | 19       | 16     | N.     | .....          |              | 3.....  | 72       | 36       | 36     | S.     | .....          |              | 3.....  | 46       | 35       | 11     | NW.    | .....          |             |
| 4.....       | 42       | 20       | 22     | W.     | .....          |              | 4.....  | 75       | 38       | 37     | SE.    | .....          |              | 4.....  | 54       | 37       | 17     | N.     | .....          |             |
| 5.....       | 37       | 25       | 12     | N.     | 0.47           | Snow.        | 5.....  | 73       | 39       | 34     | S.     | .....          |              | 5.....  | 59       | 38       | 21     | NW.    | .....          |             |
| 6.....       | 38       | 11       | 27     | NW.    | .....          |              | 6.....  | 69       | 41       | 28     | SE.    | .....          |              | 6.....  | 69       | 36       | 33     | S.     | .....          |             |
| 7.....       | 37       | 28       | 9      | NW.    | .....          |              | 7.....  | 62       | 39       | 23     | SE.    | .....          |              | 7.....  | 71       | 45       | 26     | NW.    | .....          |             |
| 8.....       | 35       | 27       | 8      | S.     | .....          |              | 8.....  | 47       | 23       | 24     | S.     | 0.05           | Snow.        | 8.....  | 67       | 49       | 18     | SE.    | .05            | Rain.       |
| 9.....       | 42       | 25       | 17     | S.     | .....          |              | 9.....  | 51       | 33       | 18     | SE.    | .....          | Rain traces. | 9.....  | 64       | 39       | 25     | NW.    | .04            | Rain.       |
| 10.....      | 45       | 34       | 11     | S.     | .02            | Snow.        | 10..... | 56       | 32       | 24     | S.     | .....          |              | 10..... | 68       | 36       | 32     | NW.    | .....          |             |
| 11.....      | 39       | 22       | 17     | NW.    | .30            | Snow.        | 11..... | 60       | 34       | 26     | NW.    | .....          |              | 11..... | 75       | 40       | 35     | NW.    | .....          |             |
| 12.....      | 39       | 23       | 16     | S.     | .....          |              | 12..... | 66       | 40       | 26     | NW.    | .....          |              | 12..... | 79       | 47       | 32     | S.     | .....          |             |
| 13.....      | 47       | 20       | 27     | NW.    | .....          |              | 13..... | 70       | 36       | 34     | N.     | .....          |              | 13..... | 83       | 47       | 36     | NW.    | .....          |             |
| 14.....      | 50       | 29       | 21     | S.     | .....          | Rain traces. | 14..... | 75       | 37       | 38     | NW.    | .....          |              | 14..... | 82       | 54       | 28     | NW.    | .....          |             |
| 15.....      | 51       | 29       | 22     | S.     | .....          |              | 15..... | 76       | 42       | 34     | S.     | .....          |              | 15..... | 80       | 52       | 28     | NW.    | .40            | Rain.       |
| 16.....      | 61       | 31       | 30     | S.     | .....          |              | 16..... | 73       | 43       | 30     | NW.    | .....          |              | 16..... | 59       | 37       | 22     | S.     | .10            | Rain, snow. |
| 17.....      | 60       | 33       | 27     | NW.    | .....          |              | 17..... | 73       | 41       | 32     | SE.    | .....          |              | 17..... | 46       | 33       | 13     | NW.    | .....          |             |
| 18.....      | 59       | 33       | 26     | S.     | .....          |              | 18..... | 73       | 40       | 33     | E.     | .....          |              | 18..... | 61       | 37       | 24     | NW.    | .10            | Snow.       |
| 19.....      | 61       | 31       | 30     | SE.    | .....          |              | 19..... | 76       | 37       | 39     | E.     | .....          |              | 19..... | 65       | 40       | 25     | S.     | .....          |             |
| 20.....      | 52       | 32       | 20     | NW.    | .37            | Rain.        | 20..... | 77       | 44       | 33     | SE.    | .....          |              | 20..... | 71       | 40       | 31     | S.     | .....          |             |
| 21.....      | 44       | 32       | 12     | NW.    | .....          |              | 21..... | 66       | 51       | 15     | NW.    | .....          |              | 21..... | 81       | 41       | 40     | S.     | .....          |             |
| 22.....      | 37       | 28       | 9      | NW.    | .....          | Snow traces. | 22..... | 70       | 40       | 30     | SE.    | .....          |              | 22..... | 78       | 46       | 32     | S.     | .....          |             |
| 23.....      | 50       | 26       | 24     | S.     | .....          |              | 23..... | 76       | 37       | 39     | NW.    | .....          |              | 23..... | 71       | 43       | 28     | NW.    | .1             | Rain.       |
| 24.....      | 58       | 28       | 30     | W.     | .....          |              | 24..... | 73       | 45       | 28     | NW.    | .....          |              | 24..... | 53       | 41       | 12     | NW.    | .....          |             |
| 25.....      | 66       | 33       | 33     | S.     | .....          |              | 25..... | 70       | 45       | 25     | S.     | .40            | Rain.        | 25..... | 69       | 41       | 28     | NW.    | .....          |             |
| 26.....      | 63       | 35       | 28     | S.     | .....          |              | 26..... | 51       | 39       | 15     | NW.    | .....          | Rain traces. | 26..... | 71       | 43       | 28     | W.     | .....          |             |
| 27.....      | 60       | 43       | 17     | NW.    | .....          |              | 27..... | 70       | 39       | 31     | S.     | .....          |              | 27..... | 64       | 44       | 20     | SE.    | .6             | Rain.       |
| 28.....      | 55       | 25       | 30     | SE.    | .05            | Rain.        | 28..... | 75       | 41       | 34     | NW.    | .....          |              | 28..... | 63       | 42       | 21     | SE.    | .3             | Rain.       |
| 29.....      | 54       | 34       | 20     | S.     | .....          |              | 29..... | 77       | 44       | 33     | S.     | .....          |              | 29..... | 66       | 41       | 25     | S.     | .15            | Rain.       |
| 30.....      | 63       | 33       | 30     | S.     | .....          |              | 30..... | 77       | 44       | 33     | NW.    | .....          |              | 30..... | 75       | 47       | 28     | S.     | .....          |             |
| Total        | 1,445    | 827      | 618    | .....  | 1.21           |              | Total   | 2,137    | 1,213    | 924    | .....  | 1.55           |              | Total   | 1,987    | 1,242    | 745    | .....  | 2.345          |             |
| Mean         | 48.16    | 27.57    | 20.60  | S.     | .....          |              | Mean    | 68.93    | 39.13    | 29.80  | S.     | .....          |              | Mean    | 66.23    | 41.40    | 24.83  | S.     | .....          |             |

Maximum, 65° on 25th instant; minimum, 11° on 6th instant; mean, 20.60; precipitation, 1.21; winds, south.

Maximum, 77° on 20th, 29th, and 30th instant; minimum, 23° on 8th instant; mean, 29.80; precipitation, 1.55; winds, south.

Maximum, 83° on 13th instant; minimum, 33° on 17th instant; mean, 53.81; precipitation, 2.345; winds, south.

METEOROLOGICAL REGISTER, FORT YELLOWSTONE, WYO.—Continued.

JULY, 1897.

| Date.      | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. |
|------------|----------|----------|--------|--------|----------------|----------|
| 1.....     | 77       | 52       | 25     | S.     | .....          | Rain.    |
| 2.....     | 61       | 47       | 14     | S.     | 0.38           | Rain.    |
| 3.....     | 51       | 39       | 12     | NW.    | .15            | Rain.    |
| 4.....     | 55       | 43       | 12     | S.     | .09            | .....    |
| 5.....     | 68       | 39       | 29     | NW.    | .....          | .....    |
| 6.....     | 69       | 48       | 21     | S.     | .....          | .....    |
| 7.....     | 74       | 44       | 30     | NW.    | .....          | .....    |
| 8.....     | 65       | 45       | 20     | NW.    | .....          | .....    |
| 9.....     | 73       | 36       | 37     | W.     | .....          | .....    |
| 10.....    | 78       | 38       | 40     | S.     | .....          | .....    |
| 11.....    | 85       | 43       | 42     | S.     | .....          | .....    |
| 12.....    | 89       | 47       | 42     | S.     | .....          | .....    |
| 13.....    | 81       | 59       | 22     | SW.    | .14            | R in.    |
| 14.....    | 80       | 50       | 30     | S.     | .....          | .....    |
| 15.....    | 81       | 50       | 31     | S.     | .....          | .....    |
| 16.....    | 82       | 50       | 32     | SW.    | .....          | .....    |
| 17.....    | 68       | 50       | 18     | NW.    | .....          | .....    |
| 18.....    | 56       | 36       | 20     | N.     | .....          | .....    |
| 19.....    | 62       | 32       | 30     | NW.    | .....          | .....    |
| 20.....    | 74       | 51       | 23     | SW.    | .....          | .....    |
| 21.....    | 79       | 45       | 34     | S.     | .....          | .....    |
| 22.....    | 78       | 46       | 32     | SW.    | .....          | .....    |
| 23.....    | 74       | 45       | 29     | SW.    | .....          | .....    |
| 24.....    | 77       | 51       | 26     | SW.    | .....          | .....    |
| 25.....    | 78       | 45       | 33     | SW.    | .....          | .....    |
| 26.....    | 82       | 42       | 40     | NW.    | .....          | .....    |
| 27.....    | 87       | 48       | 39     | SW.    | .....          | .....    |
| 28.....    | 89       | 42       | 47     | SW.    | .....          | .....    |
| 29.....    | 84       | 49       | 35     | SW.    | .....          | .....    |
| 30.....    | 82       | 57       | 25     | SE.    | .35            | Rain.    |
| 31.....    | 80       | 47       | 33     | SW.    | .....          | .....    |
| Total..... | 2,319    | 1,416    | 903    | .....  | 1.11           | .....    |
| Mean.....  | 74.806   | 45.677   | 29.129 | SW.    | .....          | .....    |

Maximum 89°, on 12th and 28th instant; minimum 32°, on 19th instant; mean, 60.24°; precipitation, 1.11; winds, southwest.

AUGUST, 1897.

| Date.      | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. |
|------------|----------|----------|--------|--------|----------------|----------|
| 1.....     | 74       | 43       | 31     | S.     | .....          | .....    |
| 2.....     | 70       | 41       | 29     | NW.    | .....          | .....    |
| 3.....     | 73       | 42       | 31     | NW.    | .....          | .....    |
| 4.....     | 80       | 48       | 32     | SW.    | .....          | .....    |
| 5.....     | 82       | 51       | 31     | S.     | .....          | .....    |
| 6.....     | 84       | 50       | 34     | S.     | .....          | .....    |
| 7.....     | 82       | 50       | 32     | SW.    | .....          | .....    |
| 8.....     | 76       | 51       | 35     | SW.    | 0.15           | Rain.    |
| 9.....     | 73       | 53       | 20     | S.     | .26            | Rain.    |
| 10.....    | 81       | 49       | 32     | S.     | .16            | Rain.    |
| 11.....    | 85       | 51       | 34     | S.     | .....          | .....    |
| 12.....    | 76       | 49       | 27     | SW.    | .....          | .....    |
| 13.....    | 71       | 52       | 19     | SW.    | .....          | .....    |
| 14.....    | 74       | 40       | 34     | NW.    | .....          | .....    |
| 15.....    | 77       | 42       | 35     | S.     | .....          | .....    |
| 16.....    | 80       | 43       | 37     | NW.    | .....          | .....    |
| 17.....    | 79       | 48       | 31     | NW.    | .....          | .....    |
| 18.....    | 77       | 42       | 35     | NW.    | .....          | .....    |
| 19.....    | 80       | 42       | 38     | NW.    | .....          | .....    |
| 20.....    | 81       | 42       | 39     | NW.    | .....          | .....    |
| 21.....    | 83       | 44       | 29     | SE.    | .....          | .....    |
| 22.....    | 77       | 48       | 29     | NW.    | .....          | .....    |
| 23.....    | 83       | 46       | 37     | W.     | .....          | .....    |
| 24.....    | 88       | 51       | 37     | NW.    | .....          | .....    |
| 25.....    | 81       | 50       | 31     | NW.    | .....          | .....    |
| 26.....    | 79       | 37       | 42     | W.     | .....          | .....    |
| 27.....    | 80       | 46       | 34     | SW.    | .....          | .....    |
| 28.....    | 81       | 47       | 34     | W.     | .....          | .....    |
| 29.....    | 83       | 40       | 43     | SW.    | .....          | .....    |
| 30.....    | 81       | 50       | 31     | S.     | .....          | .....    |
| 31.....    | 64       | 50       | 14     | SW.    | .....          | .....    |
| Total..... | 2,435    | 1,438    | 997    | .....  | .57            | .....    |
| Mean.....  | 78.54    | 46.38    | 32.16  | NW.    | .....          | .....    |

Maximum 88°, on 24th instant; minimum 37°, on 26 instant; mean, 62.46°; precipitation, 0.57; winds, northwest.



## RULES AND REGULATIONS OF THE YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,  
*Washington, D. C., June 1, 1897.*

The following rules and regulations for the government of the Yellowstone National Park are hereby established and made public pursuant to authority conferred by section 2475, Revised Statutes, United States, and the act of Congress approved May 7, 1894:

1. It is forbidden to remove or injure the sediment or incrustations around the geysers, hot springs, or steam vents; or to deface the same by written inscription or otherwise; or to throw any substance into the springs or geyser vents; or to injure or disturb, in any manner, or to carry off any of the mineral deposits, specimens, natural curiosities, or wonders within the park.

2. It is forbidden to ride or drive upon any of the geyser or hot-spring formations, or to turn loose stock to graze in their vicinity.

3. It is forbidden to cut or injure any growing timber. Camping parties will be allowed to use dead or fallen timber for fuel.

4. Fires shall be lighted only when necessary, and completely extinguished when not longer required. The utmost care should be exercised at all times to avoid setting fire to the timber and grass, and anyone failing to comply therewith shall be peremptorily removed from the park.

5. Hunting or killing, wounding or capturing of any bird or wild animal, except dangerous animals, when necessary to prevent them from destroying life or inflicting an injury, is prohibited. The outfits, including guns, traps, teams, horses, or means of transportation used by persons engaged in hunting, killing, trapping, ensnaring, or capturing such birds or wild animals, or in possession of game killed in the park under other circumstances than prescribed above, will be forfeited to the United States, except in cases where it is shown by satisfactory evidence that the outfit is not the property of the person or persons violating this regulation, and the actual owner thereof was not a party to such violation. Firearms will only be permitted in the park on written permission from the superintendent thereof. On arrival at the first station of the park guard, parties having firearms will turn them over to the sergeant in charge of the station, taking his receipt for them. They will be returned to the owners on leaving the park.

6. Fishing with nets, seines, traps, or by the use of drugs or explosives, or in any other way than with hook and line, is prohibited. Fishing for purposes of merchandise or profit is forbidden by law. Fishing may be prohibited by order of the superintendent of the park in any of the waters of the park, or limited therein to any specified season of the year, until otherwise ordered by the Secretary of the Interior.

7. No person will be permitted to reside permanently or to engage in any business in the park without permission, in writing, from the Department of the Interior. The superintendent may grant authority to competent persons to act as guides and revoke the same in his discretion, and no pack trains shall be allowed in the park unless in charge of a duly registered guide.

8. The herding or grazing of loose stock or cattle of any kind within the park, as well as the driving of such stock or cattle over the roads of the park, is strictly forbidden, except in such cases where authority therefor is granted by the Secretary of the Interior.

9. No drinking saloon or barroom will be permitted within the limits of the park.

10. Private notices or advertisements shall not be posted or displayed within the park, except such as may be necessary for the convenience and guidance of the public, upon buildings on leased ground.

11. Persons who render themselves obnoxious by disorderly conduct or bad behavior, or who violate any of the foregoing rules, will be summarily removed from the park, and will not be allowed to return without permission, in writing, from the Secretary of the Interior or the superintendent of the park.

Any person who violates any of the foregoing regulations will be deemed guilty of a misdemeanor, and be subjected to a fine as provided by the act of Congress approved May 7, 1894, "to protect the birds and animals in Yellowstone National Park and to punish crimes in said park, and for other purposes," of not more than one thousand dollars, or imprisonment not exceeding two years, or both, and may be adjudged to pay all costs of the proceedings.

CORNELIUS N. BLISS.  
*Secretary of the Interior.*

## INSTRUCTIONS TO PERSONS TRAVELING THROUGH YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,  
OFFICE OF SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., June 20, 1897.*

The following instructions for the information and guidance of parties traveling through the Yellowstone Park, having received the approval of the Secretary of the Interior, are published for the benefit of all concerned:

(1) *Fires*.—The greatest care must be exercised to insure the complete extinction of all camp fires before they are abandoned. All ashes and unburned bits of wood must, when practicable, be thoroughly soaked with water. Where fires are built in the neighborhood of decayed logs, particular attention must be directed to the extinguishment of fires in the decaying mold. Such material frequently smolders for days and then breaks out into dangerous conflagration. Fire may also be extinguished where water is not available by a complete covering of earth well packed down.

(2) *Camps*.—No camp will be made at a less distance than 100 feet from any traveled road. Blankets, clothing, hammocks, or any other article liable to frighten teams must not be hung at a nearer distance than this to the road. The same rule applies to temporary stops, such as for feeding horses or for taking luncheon.

Camp grounds must be thoroughly cleaned before they are abandoned, and such articles as tin cans, bottles, cast-off clothing, and other debris must be either buried or taken to some place where they will not offend the sight.

(3) *Bicycles*.—Many of the horses driven in the park are unused to bicycles and liable to be frightened by them. The greatest care must therefore be exercised by their riders. In meeting teams riders will always dismount and stand at the side of the road—the lower side, if the meeting be on a grade. In passing teams from the rear, riders will ring their bell as a warning and inquire of the driver if they may pass. If it appear from the answer that the team is liable to be frightened, they may ask the driver to halt his team and allow them to dismount and walk past.

Riders of bicycles are responsible for all damages caused by failure to properly observe these instructions.

(4) *Fishing*.—All fish less than 6 inches in length should at once be returned to the water, with the least damage possible to the fish. No fish should be caught in excess of the number needed for food.

(5) *Dogs*.—When dogs are taken through the park, they must be prevented from chasing the animals and birds or annoying passers-by. To this end they must be carried in the wagons or led behind them while traveling, and kept within the limits of the camps when halted. Any dog found at large in disregard of this section will be killed.

(6) *Grazing animals*.—Only animals actually in use for purposes of transportation through the park can be grazed in the vicinity of the camps. They will not be allowed to run over any of the formations, nor near to any of the geysers or hot springs; neither will they be allowed to run loose in the roads.

(7) *Miscellaneous*.—The carving or writing of names or other things on any of the mileposts or signboards, or any of the seats, railings, or other structures, or on the trees, will not be permitted.

Persons are not allowed to bathe near any of the regularly traveled roads in the park without suitable bathing clothes.

(8) Willful disregard of the instructions will result in the ejection of the offending person or persons from the park.

S. B. M. YOUNG,  
Colonel, United States Army,  
*Acting Superintendent Yellowstone National Park.*

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ADDITIONAL RULES ENFORCED BY SUPERINTENDENT.

OFFICE SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., July 10, 1897.*

Warning is given that on and after July 17 instant any loose cattle or stock found wandering within the limits of the park in violation of paragraph 8 of the Rules and Regulations of the Yellowstone National Park, 1897, will be driven out of the park via Riverside Station, on the west side, and permission will not be given for their return through the park.

S. B. M. YOUNG,  
Colonel, United States Army,  
*Acting Superintendent Yellowstone National Park.*



DEPARTMENT OF THE INTERIOR,  
OFFICE SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., July 17, 1897.*

To avoid accidents in future and for the safe conduct of tourists traveling through the park, driving over the roads of the park at night is prohibited, except in special cases of emergency, for which permission must be obtained in writing from this office.

S. B. M. YOUNG,  
*Colonel, United States Army, Acting Superintendent.*

DEPARTMENT OF THE INTERIOR,  
OFFICE SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., August 11, 1897.*

From this date until further orders fishing is prohibited in the following-named streams: Gardiner River, from its mouth up to the junction of the east and middle forks; Glen Creek, Indian Creek, Willow Creek, Obsidian Creek, and Beaver Lake.

S. B. M. YOUNG,  
*Colonel, United States Army, Acting Superintendent.*

FORM OF LICENSE FOR GUIDES.

Registered No. —.]

UNITED STATES OF AMERICA.

DEPARTMENT OF THE INTERIOR.

OFFICE OF SUPERINTENDENT YELLOWSTONE NATIONAL PARK.

Be it known that ———, of ———, is hereby authorized under paragraph 7, Rules and Regulations, and upon the conditions hereinafter set forth, to act as guide and to personally conduct back trains in and through the Yellowstone National Park from ———, 189—, to ———, 189—, using for such purpose ——— saddle and pack animals.

The names and addresses of the guide and each tourist, as well as those of all employees, with schedule of route and camping places of all parties taken into the park, must be registered by the guide in a book kept for that purpose by the acting superintendent of the park.

On the wagon roads of the park vehicles have the right of way over pack trains or saddle animals, and the guide must see that no vehicle is delayed nor the horses thereof frightened by his outfit.

Special attention must be given to the complete extinguishment of fires. (Par. No. 1, "Instructions to persons traveling through the Yellowstone National Park.")

All camping places must be carefully policed before being abandoned.

The guide will be held responsible for all violations of the park regulations by his employees or by parties conducted through the park by him, and must report to the acting superintendent of the park all violations of such regulations which come to his knowledge in any way.

For willful violation of the conditions hereof on the part of the guide, or of the park regulations by his employees or persons carried by him, this authority will be revoked by the acting superintendent of the park.

Signed at Mammoth Hot Springs, Wyo., this — day of —, 189—.

\_\_\_\_\_  
*Colonel, United States Army, Acting Superintendent.*

\_\_\_\_\_. (Signature of guide.)



List of registered guides.

| No. | Guide.               | Residence.              | Number<br>animals. | Duration.                 |
|-----|----------------------|-------------------------|--------------------|---------------------------|
| 1   | J. G. Fiske.....     | Jacksons Hole, Wyo..... | -----              |                           |
| 2   | David Rhodes .....   | Gardiner, Mont .....    | 25                 | Aug. 10 to Nov. 15, 1897. |
| 3   | W. A. Hague .....    | Fridley, Mont.....      | 25                 | Aug. 11 to Dec. 1, 1897.  |
| 4   | Elwood Hofer .....   | Gardiner, Mont.....     | 35                 | Do.                       |
| 5   | Taswell Woody.....   | Yanceys .....           | 30                 | Aug. 12 to Dec. 1, 1897.  |
| 6   | Wm. J. Proctor ..... | Bearguleh, Mont.....    | 12                 | Aug. 16 to Dec. 1, 1897.  |
| 7   | B. D. Sheffield..... | Livingston, Mont.....   | 20                 | Aug. 18 to Nov. 1, 1897.  |
| 8   | Richard Randall..... | Gardiner, Mont.....     | 20                 | Aug. 19 to Dec. 1, 1897.  |
| 9   | Thos. Smith .....    | Jacksons Hole, Wyo..... | *10                | Aug. 21 to Dec. 1, 1897.  |
| 10  | Wm. Van Buskirk..... | Gardiner, Mont.....     | 35                 | Aug. 26 to Dec. 1, 1897.  |
| 11  | Fountain Black.....  | Chico, Mont .....       | 10                 | Aug. 27 to Nov. 1, 1897.  |
| 12  | Frank Gruard.....    | Sheridan, Wyo.....      | 30                 | Aug. 29 to Dec. 1, 1897.  |

\* And one 2-horse spring wagon.

Observations made on geysers, hot springs, etc., in the park by members of the geological department will be reported through that department.

FORM OF PERMIT TO CARRY ARMS, SEALED.

No. —.] DEPARTMENT OF THE INTERIOR,  
OFFICE OF SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
\_\_\_\_\_, 189—.

Mr. \_\_\_\_\_ has permission to carry through the park, sealed, the following arms, viz, \_\_\_\_\_ (to travel by the wagon road only), from \_\_\_\_\_ to \_\_\_\_\_, via \_\_\_\_\_.  
By order of the acting superintendent: \_\_\_\_\_,

[Reverse side of form.]

| Examined at—           | Date. | By—   |
|------------------------|-------|-------|
| Norris .....           | ..... | ..... |
| L. Basin.....          | ..... | ..... |
| U. Basin.....          | ..... | ..... |
| Canyon .....           | ..... | ..... |
| Thumb .....            | ..... | ..... |
| Snake River.....       | ..... | ..... |
| Riverside .....        | ..... | ..... |
| Soda Butte.....        | ..... | ..... |
| Fort Yellowstone.....  | ..... | ..... |
| Upper Yellowstone..... | ..... | ..... |
| Pelican Creek.....     | ..... | ..... |

FORM OF RECEIPT FOR FIREARMS.

No. —.] DEPARTMENT OF THE INTERIOR,  
OFFICE OF SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
\_\_\_\_\_, 189—.

Received from Mr. \_\_\_\_\_ the following firearms, to be returned to him on his exit from the park at this post: \_\_\_\_\_.

\_\_\_\_\_,  
\_\_\_\_\_.

APPENDIX A.

Statement of cases brought before Hon. John W. Meldrum, United States commissioner, since the 1st day of July, A. D. 1897.

July 5.—United States v. Thomas McKeever, Patrick McGeehan, and Samuel Davis. Charge: Violation of rules and regulations promulgated by Secretary of the Interior with reference to management and care of Yellowstone National Park. Fined \$10 each.

*July 8.*—United States *v.* John Sweeney. Charge: Assault. Trial had July 20. Defendant discharged.

*July 14.*—United States *v.* J. D. Lorden and J. G. Sciveright. Charge: Violation of rules and regulations. Defendants fined \$5 each.

*July 19.*—United States *v.* John Lindsay and Hugh McDerment. Charge: Violation of rules and regulations, etc. Fined \$10 each.

*July 19.*—United States *v.* J. M. Lloyd. Charge: Violation of rules and regulations. Trial had August 10. Defendant discharged.

*July 25.*—United States *v.* Frank L. Patrick. Charge: Assault. Defendant not yet arrested.

*July 29.*—United States *v.* A. H. Conlisk and E. S. Crocker. Charge: Violation of rules and regulations. Defendants discharged.

*August 12.*—United States *v.* John Townsend. Charge: Assault. Fined \$25 and costs.

*August 25.*—United States *v.* H. K. Bateman, James Elston, and Otto Boetticher. Charge: Violation of rules and regulations. Defendants adjudged to pay costs.

*August 25.*—United States *v.* F. M. Joslyn and M. T. Gandy. Charge: Violation of rules and regulations. Defendants fined \$5 each and costs.

*August 26.*—United States *v.* Gus Smitzer and George Reeb. Charge: Robbery. Case pending.

*August 27.*—United States *v.* Isaac Wampler and W. D. Coates. Charge: Violation of rules and regulations. Defendants adjudged to pay costs.

*August 28.*—United States *v.* John Austin and S. N. Van Blaricon. Charge: Violation of rules and regulations. Defendants fined \$5 each and costs.

*August 30.*—United States *v.* C. B. Lyle. Charge: Violation of rules and regulations. Defendant adjudged to pay costs—\$9.50.

Many other cases, such as leaving camp not properly policed and fires not thoroughly extinguished, where the parties were arrested and marched back many miles and made to comply with the rules, having been considered sufficiently punished, were not sent before the commissioner.

APPENDIX B.

LEASES IN YELLOWSTONE NATIONAL PARK.

Yellowstone Park Transportation Company: Mammoth Hot Springs, 2 acres; Norris, 2 acres; Fountain, 1 acre; Upper Geyser Basin, 2 acres; Lake, 2 acres; Canyon, 1 acre; building, etc., for the accommodation of employees and stock.

Yellowstone Park Association: Mammoth Hot Springs, Mammoth Hotel and commissary; Mammoth Hot Springs, Cottage Hotel and Mammoth barn; Fountain (Lower Basin), cottages; Fountain, Fountain Hotel and barn; Lake, Lake Hotel and barn; Canyon, Canyon Hotel, pump house, and barn.

Yellowstone Lake Boat Company: Near Lake Hotel, 2 acres; Frank Island, 2 acres; Stevenson's Island, 2 acres; Dot Island, 1 acre; West Thumb, 1 acre; Ways, 2 acres; Southeast Arm, 2 acres; Dot Island Game Corral, 2 acres; to be located by superintendent, 6 acres.

Jennie H. Ash: Mammoth Hot Springs, dwelling, post-office, and store.

Ole A. Anderson: Mammoth Hot Springs, dwelling and store.

John F. Yancey: Pleasant Valley, hotel.

F. J. Haynes: Mammoth Hot Springs, studio.

F. J. Haynes: Upper Geyser Basin, studio.

APPENDIX C.

|  |        |
|--|--------|
| Greatest number of arrivals in one day (July 19).....                | 434    |
| Least number of arrivals in one day (July 18) .....                  | 2      |
| Greatest number of arrivals in one week (week ending July 26).....   | 1, 416 |
| Least number of arrivals in one week (week ending June 8) .....      | 40     |
| Greatest number of arrivals in one month (month ending July 31)..... | 2, 480 |
| Least number of arrivals in one month (month ending June 30) .....   | 377    |

*Greatest number of tourists fed in one day.*

|                                 | Date.   | Number. |
|---------------------------------|---------|---------|
| Mammoth Hot Springs Hotel ..... | July 25 | 1, 341  |
| Fountain Geyser Hotel .....     | July 27 | 737     |
| Lake Hotel .....                | July 25 | 629     |
| Canyon Hotel .....              | July 25 | 855     |
| Norris Lunch Station .....      | July 27 | 561     |
| Upper Basin Lunch Station ..... | July 30 | 332     |
| Thumb Lunch Station .....       | July 26 | 257     |

*Greatest number of tourists accommodated over night at each hotel.*

|                      | Date.   | Number. |
|----------------------|---------|---------|
| Mammoth Hotel .....  | July 24 | 397     |
| Fountain Hotel ..... | July 23 | 418     |
| Lake Hotel .....     | July 26 | 212     |
| Canyon Hotel .....   | July 24 | 355     |

*Extra bedroom equipment bought, season of 1897, account of Christian Endeavor business.*

|                                     |     |
|-------------------------------------|-----|
| Woven wire double bed springs ..... | 267 |
| Hair mattresses .....               | 169 |
| Pillows .....                       | 475 |
| Pillow slips .....                  | 325 |
| Sheets .....                        | 340 |
| Spreads .....                       | 123 |
| Room towels .....                   | 570 |
| Napkins .....                       | 468 |



# SUPPLEMENTAL REPORT.

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DEPARTMENT OF THE INTERIOR,  
SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., November 10, 1897.*

SIR: I have the honor to submit the following supplemental report of the condition of affairs and of the management of the Yellowstone National Park from August 21 to present date.

## TRAVEL.

The total number of visitors carried over the regular route by the Yellowstone National Park Transportation Company was 781; total number carried by C. J. Bassett via Beaver Canyon, 22; total number carried through by licensed transportation of personally conducted camping parties, 129; total number carried through in private transportation, 1,127; total number of bicyclers, foot travelers, etc., 41. The total number of persons taking trip on the Yellowstone Lake, traveling by the regular transportation company, 628; total number taking this trip who went through with camping parties, 345. Total number of visitors to the park since August 21, 2,100.

The aggregate number of tourists carried over the regular route by the Yellowstone National Park Transportation Company during the entire season, 4,626; aggregate number carried by C. J. Bassett via Beaver Canyon, 124; aggregate number carried by licensed transportation of personally conducted camping parties, 1,354; aggregate number carried by private transportation, 4,454; aggregate number of bicyclers, foot travelers, etc., 235.

The aggregate number taking the trip on Yellowstone Lake traveling by regular transportation company was 2,295; number of persons taking this trip who went through with camping parties, 1,267; aggregate number taking trip on the Yellowstone Lake during the season, 3,562.

Grand aggregate of visitors to the park for the season of 1897, 10,825.

Violations of the rules and regulations were extremely rare during the latter part of the season. Exceptions, however, were found in neglect and carelessness displayed in failing to thoroughly extinguish their camp fires and police their temporary camp grounds, by tourists traveling in private transportation. These exceptions do not apply to the personally conducted camping parties traveling with licensed transportation.

## FIRES.

But one fire occurred in the park after August 21. This was between Wildcat Peak and Bobcat Ridge, in the forest reserve south of the park. It was extinguished by a detachment of men under Lieutenant

Hawkins, from the Lower Geyser Basin, assisted by men from the outpost at Snake River Station. It was a series of small fires set at different places between Wildcat Peak and Bobcat Ridge, supposed to have been kindled by hunters for the purpose of preventing large game from passing north between these points.

Substantial sidings have been erected at the various points of interest along the regularly traveled route, for the comfort and convenience of tourists in getting out of and into coaches and other conveyances.

The mania for carving and writing names on guard rails, benches, etc., placed for the safety and convenience of visitors, seems to have increased during the latter part of the season. It is contemplated to erect a large bulletin board for the convenience of visitors next season affected with this insane passion, with columns for name and address, and a heading, "All fools and idiots required to register here only."

The Park Association should construct a hotel at Upper Geyser Basin where now there is but a temporary lunch station. I have been informed by Hon. D. S. Lamont, vice-president Northern Pacific Railway, that the subject of building a hotel at that point, and also a new one at Mammoth Hot Springs, will be taken under advisement at the meeting of the directors of the association in December next. The old, barn-like structure called the "Mammoth Springs Hotel" should be torn down and the plateau at its front set apart as a military reservation for parade and drill purposes, and for ground on which the post of Fort Yellowstone could be enlarged; it is now cramped for room for its present small garrison. The new hotel should be built on the site of the old post, from which the ramshackle structures in which the troops were formerly housed should be removed.

On my recommendation a proposition to establish permanent camps, suitable in neatness, comfort, and convenience for a large number of visitors who desire to experience that mode of an outing in the park, is now being considered by the Park Association and the Park Transportation Company. There is a demand for this kind of accommodations, and, in my judgment, it is for the interest of the public, and the proper management of the park could be best subserved by the accomplishment of this proposition. The maximum charges for this service should be fixed by the Department, and the acting superintendent should see that the service charged for, both by the Park Association and the Park Transportation Company, are duly, properly, and courteously rendered. There is another class of travel which can be accommodated as heretofore by the annual licenses for five conveyances each, granted on the approval of the acting superintendent to applicants of reliable character who live at and near the railroad terminus.

The increase of travel entering the park on the west from the Union Pacific Railroad demands a better class of wagon transportation. Application for a license to supply this demand is now under consideration, and will be forwarded in due time for consideration by the Department.

#### ROADS.

A generous appropriation by Congress for the proper repairs of the present roads and the building of new ones, as noted in my estimates to the Quartermaster-General, would be a measure of economy. Many portions of the present traveled roads should be macadamized, and protected by strong revetments. Permanent stone guards, connected by guard rails, should be constructed at all dangerous points. A massive stone or steel bridge—the former preferable—should take the place



of the wooden structure in the Golden Gate Pass. The timbers in this structure have lost their elasticity, and a new bridge should certainly be constructed next season.

The road down Madison Canyon to the west boundary over the new site has been opened, but not thoroughly completed; the road down Lewis and Snake river valleys, from the Thumb to the southern border of the forest reserve at head of Jacksons Lake, is open, but requires much work to thoroughly complete it; the road from Mammoth to the northeastern corner near Cooke City requires large expenditure for completion. Baronett's bridge, on this road, is unsafe and must be renewed. The proposed road from Canyon Hotel down the Yellowstone to Yancey's, to intersect the Cooke City road, should certainly be constructed. Professor Walcott, Director of the Geological Survey, at my request passed over the proposed location of this road and fully concurs in my recommendation that it be built.

It is due to the public that a commission, composed of a member of the Geological Survey, an officer of the Engineer Corps, United States Army, and a gentleman from civil life, be appointed to advise with the acting superintendent on the location of new roads and saddle trails, in order that all the beauties, wonders, and grand scenery may be made accessible to visitors.

#### PROTECTION.

The area of the park proper and of about two-thirds of the timber reserve to the south, is, and can be, well protected against poachers during the winter season by the present garrison of Fort Yellowstone, aided by the expert guides and scouts now employed. Two or three soldiers accompany each civilian scout.

These details are changed from time to time, in order that all may become acquainted with the country and habits and habitats of the game, and the tricks and cunning ways of the poachers.

During the summer season an additional force of mounted and foot troops is necessary to protect the park, and enforce the rules and regulations.

The forest reserve adjoining the east boundary of the park comprises an area of over 1,000 square miles. There are about 125 people living and mining in this section, during the summer. Of this number, about 100 are miners and prospectors, and about 25 are ranchers. These people obtain their fresh meat from the big game in this section. By a glance at the map it will be seen that a high, rugged, impassable (in winter) range of mountains (altitude averaging 10,000 feet) extends from the northwest corner of this reserve, longitude  $110^{\circ}$  to  $110^{\circ} 55'$  on south boundary.

One troop of cavalry should have station east of this dividing line, with headquarters in Stinking Water mining region, with outposts on Shoshone River and in Sunlight Basin, near the eastern boundary of the forest reserve, and on Thoroughfare Plateau and the headwaters of the Yellowstone. Foot troops are necessary in Upper Geyser Basin and at Mammoth Hot Springs during the summer season, in order to afford adequate protection to the wonderful formations, incrustations, etc., at these points, while the cavalry would be occupied in keeping the main traveled routes thoroughly patrolled, to require all campers, travelers, and other persons found in the park to comply with the rules and regulations governing the same.

It is impossible to accomplish this with the present small force at Fort Yellowstone.



## FISH AND GAME.

Attention is invited to the following report on fish and game by Lieut. Elmer Lindsley, Fourth Cavalry:

FORT YELLOWSTONE, WYO., *November 4, 1897.*

SIR: In obedience to your verbal instructions, I have the honor to submit the following report regarding the fishes, birds, and animals in the park.

## FISHES.

The waters of the park have been stocked as follows (report of superintendent, 1892):

In 1889: East Fork of Gardiner above falls, 1,000 black-spotted trout; Gibbon River above Virginia Cascade, 990 rainbow trout; Madison River above Keppler's Cascade, 995 Loch-Leven trout; Gardiner River above falls, 4,975 brook trout; Yellowstone River above falls, 2,000 whitefish; Twin Lakes, 1,000 whitefish.

In 1890: Shoshone Lake, 24,012 lake trout; Shoshone Lake, 3,350 Loch-Leven trout; Lewis Lake, 12,013 lake trout; Lewis Lake, 3,350 Loch-Leven trout; West Fork of Gardiner above falls, 7,850 brook trout; Nez Perce Creek, 9,850 Von Behr trout; Yellowstone River above falls, 10,000 whitefish.

All of these plants, except that of the whitefish in the Yellowstone, were made in previously barren waters. No trace has ever been found of the whitefish in either the Yellowstone River or the Twin Lakes.

The rainbow trout planted in Gibbon River seem to have come down over the cascades; but very few are found above the cascades, while below the stream is well stocked to its junction with the Firehole.

No Loch-Leven trout have ever been found in the Madison (Firehole) above Keppler's Cascade, but the brook trout are very numerous there. Evidently, through some error, the fontinalis were planted there instead of the Loch Leven.

The brook trout in Gardiner River and in the West Fork (Glen Creek) have thrived and bred abundantly, especially in Willow Creek. These streams, however, being easily accessible from the wagon roads, and the brook trout taking the fly so eagerly, have been fished out to such an extent that in August last it was deemed advisable to prohibit fishing in them for a time. This was done, and the order has not yet been revoked; it probably may be revoked next season—for a part of the season at least.

The Von Behr trout in Nez Perce Creek have multiplied abundantly, and not only this stream, but the Firehole River, from the lower falls to Keppler's Cascade and Iron Creek, are abundantly stocked, as is also the Little Firehole below Mystic Falls. In the Firehole Basin is also found an occasional brook trout, evidently come down Keppler's Cascade, and a considerable number of the native mykiss. Several good specimens of rainbow trout have also been taken from the Little Firehole, near its mouth. I can not account for the presence of the rainbow in this locality, as it seems to me plainly impossible for any fish to ascend the lower falls of the Firehole.

I have never heard of any fish being taken from Shoshone or Lewis lakes. I have seen fishes of apparently 3 or 4 pounds' weight in Shoshone Lake, and a skeleton has been found on the shore of Shoshone Lake of a fish that probably weighed 10 pounds. Two soldiers of Troop D, Fourth Cavalry, reported having seen schools of trout 2 feet long near the mouth of De Lacey Creek in Shoshone Lake.

In 1893 brook trout were planted in Shoshone Creek, and these have thrived amazingly; the stream is now literally alive with trout from 1½ pounds down.

In 1895, 500 black bass were planted in some small land-locked lakes in the Firehole Basin; nothing has been seen of them since, and I fear that all have perished.

In the Yellowstone and both forks of Snake River, with most of their tributaries, the native mykiss is indigenous and remarkably abundant. In the Madison River and its north fork, the mykiss, whitefish, and grayling are indigenous, and in the Firehole River, between its junction with the Gibbon and the lower falls, the mykiss, rainbow, Von Behr, fontinalis, grayling, and whitefish may be taken from the same pool.

I believe that bass would thrive in the small lake near the Gardiner River where ice is cut for the post; also in Moose and Loon lakes in the Falls River Meadows, and recommend that these lakes be stocked with bass. The former can be stocked at any time of year; the latter only in summer.

I hope that a hatchery will be established here, and some employee of the Government instructed in the artificial propagation of trout. A folding canvas boat is much needed for ascertaining the condition of plants made in several lakes remote from a wagon road.

## BIRDS.

Pelicans, geese, ducks, gulls, and sandhill cranes are numerous. There are some swan. All of these birds nest here. Ospreys, hawks, and eagles are fairly numerous. There are a few sharp-tailed grouse, but in the main the altitude is too great for them. The big mountain grouse is fairly abundant all over the park, and broods of the ruffed grouse are found in many places. Sage grouse have been seen in the park, but are very uncommon. The jay family is represented by the magpie in some parts of the park, and by the Clarks crow, moose bird, and crested jay in all parts. The little water ousel, a very curious and interesting bird, is fairly common, especially on the Gardiner and Gibbon rivers. Robins, kingfishers, and other small birds abound.

## ANIMALS.

*Buffalo.*—But very few buffalo have been reported this season. The scouts, however, seldom see much sign in the summer, and now the few remaining buffalo are scattered and range in the most remote and inaccessible parts of the park in summer. I am confident of finding 25 this winter, when the snowshoe season sets in, and hope there are nearly double this number in the park. Since Idaho has forbidden the killing of buffalo—as has Montana and Wyoming—I have strong hopes of being able to protect them from further slaughter by poachers. Whether they will still decrease on account of natural causes only time can tell. A strong effort is being made to protect them and to save the remnant, if possible.

*Moose.*—Moose are becoming quite numerous in the south part of the park, and particularly in the southern forest reserve, where I believe there are more moose than in all the rest of the park. There are rumors of a band between Mammoth Hot Springs and Grand Canyon, but this rumor will not be verified before snow falls. I most earnestly recommend that Congress be urged to include the forest reserve in the park. This reserve is now under charge of the park management, with orders to protect the game therein. The only practical change which would take place in the status of this strip, were it included in the park proper, is that the law of May 7, 1894, would then apply to it, and poachers could be prosecuted and punished by law, whereas now it is only under executive orders.

*Elk.*—Notwithstanding the hard winter of 1896-97, which killed many elk and drove many more out of the park, there is no perceptible diminution in their number. I believe that more than 5,000 winter in the park, and that at least 15,000 leave the park in the autumn to winter in the lower country.

I happened to be at the south boundary of the forest reserve this year, just after the first snowstorm, on October 13 and 14. The country about Jackson Lake was literally alive with elk, and from the best estimates I believe that 10,000 crossed the south boundary this fall. Many go down the Madison to winter; some down the Gallatin, and some down the Yellowstone. All that survive the winter return to the park to raise their young, as soon as the snow will permit of their return. Of those that winter in the park, the largest herd ranges north of the Yellowstone River, in the country that it has been so often proposed to cut off from the park. I doubt if any more would ever winter in the park under any circumstances, if this should happen. The park furnishes an ideal summer range for 40,000 elk, but there is not enough winter range for one-fourth that number.

*Sheep.*—There are several bands of sheep that range along the higher mountains of the park. A very fine bunch winters close to the post, on the slopes of Mount Everts. This bunch numbered about thirty last winter. There are smaller bunches in the northeast corner of the park, some along the range between Swan Lake Flat and the Madison Basin, and a considerable number in that portion of the forest reserve east of the park. It is difficult to make an estimate of the total number in the park, because of the inaccessibility of their range, but I am confident of more than 100, and believe there are 200 in the park.

*Deer.*—Deer are numerous, and in the summer are distributed over the whole park. Their protection has as yet offered no difficulties and probably will not for many years to come. Probably 200 winter in the immediate vicinity of the post and are very tame. A few white-tail deer inhabit the lower and more open portions of the park.

*Antelope.*—Last winter drove many of the antelope out of the park, and of the number which left but few ever returned. A year ago there were probably 1,000 antelope in the park; now I doubt if there are half that number. Their winter range is at the base of Mount Everts, between the Yellowstone and Gardiner rivers. This range has become infested with coyotes, which kill many antelope and worry the rest of them, until I am satisfied that unless the coyotes can be driven away or killed the antelope will be driven from their winter range and will not return.

*Bear.*—The bear have increased and are quite numerous; the small black bears are very fearless. They frequent the garbage dumps at all the hotels and are objects



much interest to tourists. If let alone they are quite harmless, and the enjoyment they afford tourists more than offsets the mischief they do.

*Wolverine.*—Wolverine, while not plentiful, are distributed over a large part of the park, though they are seldom seen by tourists.

*Coyotes.*—Coyotes are very numerous in certain sections. They do some damage to the waterfowl and kill some of the young elk, but the antelope is the greatest sufferer from their depredations. If a large number of coyotes could be gotten rid of, it would doubtless be a great benefit to the other game in the park.

There are some mountain lions, but these are rarely seen and do no material harm.

*Fur-bearing animals.*—The beaver are quite numerous in the park, and inhabit the following localities: Gardiner River, near the post, Lupine and Blacktail creeks, Elk Creek, the Lamar River, Slough Creek, Cache Creek, Soda Butte Creek, a few in Pelican Creek, the Upper Yellowstone, Thoroughfare Creek, a few in Barlow's Fork of Snake River, some in Falls River Meadows, a few about Shoshone Lake. There is a flourishing colony in Nez Perce Creek, a large one near the mouth of Magpie Creek, and a goodly number in the Gibbon River near Norris. There are some in Cascade Creek and in the lake, and all the creeks that drain into the Gardiner River above the falls. The lower beaver dam, opposite Obsidian Cliff, has been rebuilt. I think there are more beaver in the park now than at any time within the last six years, and if unmolested they will rapidly increase. Their protection, however, is one of the most difficult duties intrusted to the park management. They are now quite valuable and very easy to trap, and their skins are easily disposed of. The professional beaver trapper leaves almost no sign of his work, and it is very hard to catch him at his work.

Otter are fairly abundant and have increased since the barren streams have been stocked with fish.

Marten are plentiful and are widely distributed, as are the Canadian lynx and wild-cat.

Mink are quite plenty; foxes are plenty, and there are a goodly number of black and cross foxes. There are some badgers and many muskrats, ground hogs, squirrels, skunks, porcupines, and rabbits. Of the last we have the cottontails, a few jack rabbits, many snowshoe rabbits, besides the paca—tiny rock rabbits.

On the whole the park is a grand success as a game preserve. The variety of species is great and the condition of most of the species is satisfactory. The exceptions to this are, first, the buffalo, which are undoubtedly away from their natural range, the open plains; and next the antelope, which are suffering for lack of suitable winter range, and from the depredations of coyotes. The elk problem is not a serious one as yet, but it undoubtedly will be in a few years, unless more suitable territory is provided for winter range. This territory can now be acquired with little difficulty and at insignificant expense, and if it is acquired promptly there will always be elk hunting about the edges of the park. The longer the acquisition of this winter range is deferred the more difficult it will be, until perhaps a few generations hence the elk problem will become as difficult as is that of the buffalo now.

Respectfully submitted.

ELMER LINDSLEY.

*Second Lieutenant, Fourth Cavalry.*

The ACTING SUPERINTENDENT YELLOWSTONE NATIONAL PARK,

*Fort Yellowstone, Wyo.*

Mr. Lindsley has been charged, under my direction, with the duties of instructing the outposts and detachments in the work of protection, with regulating the movements of scouts, and making frequent inspections of all detached outposts, the manner in which patrol and scouting duty is performed—in brief, he is charged with the main duty of protecting the fish, game, and fur-bearing animals against poachers.

From my own personal observation and reports of scouts, I believe this report to be as accurate as can be made at this time. Later, when the conditions are favorable for traveling on skis, the number of buffalo and moose in the park may be closely verified, and, if materially different from the numbers in this report, it will be revised and amended accordingly.

On the morning of November 4 a large band of antelope from the slopes of Mount Everts drifted across the north boundary line of the park, between Gardiner and Electric Peak. They were fired into by lawless persons and 10 were killed. The band recrossed the line into the park. Later in the day Lieutenant Lindsley, with a detach-



ment of 20 men and 2 scouts, formed a long skirmish line and herded this band back to their winter range. The band numbered about 250.

Having obtained the names of the lawless persons who slaughtered the antelope, I have given instructions if found inside the boundary lines of the park they shall be arrested and ejected therefrom—not necessarily at the nearest point. One of the miscreants, John Dewing by name, was of the party which slaughtered so many antelope under similar conditions last winter.

The coyotes and the winter storms cause the antelope to drift down the valley of the Yellowstone and out of the park. Steps have been taken to diminish the number of coyotes.

An earthquake shock several seconds in duration was experienced at Mammoth Hot Springs at 2.30 o'clock a. m. on the 4th instant. It aroused the majority of the inhabitants from their slumbers, but caused no perceptible damage. It was not noticed at Yellowstone Lake, Firehole Basin, Grand Canyon, or Norris Basin.

#### RECOMMENDATIONS.

It is recommended that one additional troop of cavalry and one company of infantry be stationed at Fort Yellowstone for temporary duty during the tourist season, or in lieu thereof two companies of infantry.

That the forest reserve adjoining the park boundaries, set apart, reserved, and established as a public reservation by proclamation of the President, made on the 10th day of September, 1891; also, all that tract of land situate in the State of Wyoming, embraced within the following boundaries: Beginning at the intersection of parallel  $44^{\circ}$  north latitude with  $110^{\circ}$  west meridian, thence due south on said meridian to parallel  $43^{\circ} 30'$  north latitude, thence due west to the meridian of  $110^{\circ} 50'$ , thence due north to its point of intersection with parallel  $44^{\circ}$  north latitude, thence due east on said parallel to the place of beginning; also, all that tract of land situate in the State of Wyoming, embraced within the following boundaries: Beginning at the southwest corner of the present Yellowstone National Park boundary, thence due south to parallel  $44^{\circ}$  north latitude, thence due east on said parallel to its point of intersection with the west boundary line of the State of Wyoming, be made part of the Yellowstone National Park, and that the boundaries of the Yellowstone National Park, as now fixed by law, be extended to include the same, and that the National Park protective act, approved May 7, 1894, section 1, be amended accordingly.

The altitude is too great for agriculture, and of the thousand elk estimated as slaughtered there annually, 75 per cent are taken by non-residents, for the heads and teeth.

Very respectfully,

S. B. M. YOUNG,  
*Colonel Third Cavalry, Acting Superintendent.*

THE SECRETARY OF THE INTERIOR.

Inclosed herewith are copies of general and special instructions pertaining to outposts, and report pertaining to disbursements.

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#### EXHIBIT 1.

OFFICE OF SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
*Fort Yellowstone, Wyo., November 1, 1897.*

Lieutenant Lindsley, Fourth Cavalry, under the special directions of the acting superintendent, is charged with the important work of protecting the game, fur-bearing, and feathered animals of the park.

The following instructions will govern at the respective stations designated. Lieutenant Lindsley will give any additional instructions, from time to time, as may be found necessary.

#### GENERAL INSTRUCTIONS.

The operations of detachments will be confined to park limits, except in emergencies, which will be reported in detail, with reasons for leaving the park.

The principal duty of the stations in winter is to protect the birds and animals in the park. To this end each noncommissioned officer in charge of a station should, as rapidly as possible, familiarize himself thoroughly with the country included in his district, and should learn by observation the haunts and habits of fishes, birds, and animals in his district, and for whose preservation he is held responsible.

A record of each day's happenings, with number of miles traveled, destination, object of the trip, number of men, and kind of transportation (whether on foot, on horseback, or on skis), will be kept. The number and kind of game seen, its condition, the game signs seen, and the temperature and condition of weather will also be recorded. A copy of this record will be made out at the close of each month and forwarded to headquarters by first opportunity. This monthly report will also include a summary of the different kinds of game in the district, their range, condition, and an estimate of their number. The soldier in charge of a scouting party or patrol will carry a blank book, furnished for that purpose, in which he will record minutely the details of each day's trip, camping places, length of march and time consumed in marching, weather, game and game signs observed, and all circumstances of the trip. Upon returning to the station this record will be copied in the station record book and also copied on the monthly report.

No trip will be made on snowshoes by one man alone.

An abundant supply of park regulations will be furnished from headquarters, and the noncommissioned officer will see that a sufficient number of them is posted within the limits of his district. All violations of these regulations will be prevented.

It is of great importance that tourists shall be treated with fairness.

The special instructions from this office regarding the carrying, sealing, and inspection of firearms will be complied with. No one will be allowed to remain about stations, except members of this command. To prevent suffering, however, shelter may be granted in cases of necessity. As soon as the necessity is over the parties must be required to leave.

When the weather permits a trip of some kind should be made daily.

As neither the game nor the poachers travel by the wagon roads, these roads should be avoided as much as possible by patrols and scouting parties.

Visits to any particular locality should be made at irregular intervals and always by a different route, if possible. In this way all of the country will be learned in time.

Especial attention will be given to the prevention and extinction of forest fires.

All persons traveling through the park from October 1 to June 1 should be regarded with suspicion. They will be closely questioned and carefully inspected, and, if necessary, will be watched from station to station.

People arrested will be sent immediately to the Mammoth Hot Springs, with the necessary witnesses in their ease. They will be compelled to make such marches as the guard thinks proper, but will not be compelled to go more than a reasonable distance, their transportation being considered.

Great care must be taken that fire does not destroy any of the station buildings; candles, except in lanterns, will not be taken into the stable, nor will matches be lighted there.

Grain and hay will be frequently inspected to prevent waste or injury. Cleanliness of building and person will be required at all times; should vermin be found, every possible effort must be made to exterminate them.

All persons are enjoined to use the rations in the snowshoe cabins only in cases of necessity; never under any circumstances to waste any of them, and to always leave the cabins and their contents secure and in good condition. The ax and shovel must be left inside, the comfortables hanged up, the cooking utensils left clean and dry and the food in its box secure from mice, etc. Enough dry wood for one night should always be left in the cabin.

The noncommissioned officer will be held strictly responsible for everything pertaining to the station, and when relieved will turn over to his successor all the records, instructions, and public property in his possession, taking receipt therefor in duplicate. This receipt will show the number or quantity and condition of articles, and one copy will be at once transmitted to the post quartermaster.

#### SPECIAL INSTRUCTIONS.

*Soda Butte Station.*—The region to be covered by men from this station will be bounded on the west by the Yellowstone River and on the south by Broad Creek and the divide between Lamar River and Pelican Creek.



Particular attention will be paid to the prevention of poaching near the park boundaries, especially on upper Slough Creek.

In times of high water the bridge over Lamar River near the station will be frequently visited, and destruction of it prevented if possible.

A register of all parties passing the station will be kept, and a transcript of it will accompany each monthly report.

Nearly all the streams in this district contain beaver, which must be carefully watched and specially mentioned in each report. Buffalo may be found in almost any portion of the district, and the buffalo signs observed will also be noted in each report. The buffalo must not be pursued nor frightened. Attention will also be given to the preventing of the killing of elk on the north and east boundaries of the park and the forest reserve.

*Riverside.*—The district to be covered by men from this station extends from the head of Bechler River to Mount Holmes, over the Madison Plateau and up the Madison River as far as the mouth of Gibbon River, but not over in the valley of the Firehole, and including all the country north of the station which drains into the Madison.

Particular attention will be given to the prevention of poaching, special attention being given to the foothills around the basin in the fall and spring and to the prevention of the capture of live animals in the winter and early spring. Fur poachers must be closely watched for in the whole district, especially along all streams. The whole district must be frequently patrolled in winter to detect the trail of parties who may have entered on skis to poach in other districts.

The printed instructions in regard to the bridge near the station will be carefully obeyed.

Patrols may be sent to the Fountain or to Norris once in ten days for mail.

A register of all parties passing the station will be kept, and a transcript of it will accompany each monthly report.

*Snake River.*—The district to be covered by men from this station will include all of the country south of a line drawn from Madison Lake to Shoshone Geyser Basin along the south shore of the lake to the outlet, thence to the Thumb, thence along the lake shore to the mouth of Beaverdam Creek, thence east to the east boundary of the park, and south as far as the southern boundary of the forest reserve.

Particular attention will be given to the prevention of poaching near the forest reserve boundary in the valley of the Upper Yellowstone and the Falls River Basin.

Special attention will be given to the preservation of the buffalo on the west side, and to the moose, elk, and fur on the southwest corner of the forest reserve. The buffalo must not be pursued and care must be taken not to approach near enough to frighten them from their winter range.

Printed instructions in regard to the bridge over Snake River will be carefully obeyed.

As this district is far removed from stations of any considerable bodies of troops, especial attention will be given to the prevention of forest fires.

A register of all parties passing the station will be kept, and a transcript of it will accompany each monthly report.

In each monthly report special mention will be made of buffalo, moose, and beaver in the district.

*Norris.*—The district to be covered by men from this station will be bounded by a line from Apollinaris Spring to Mount Holmes, thence south along the divide to the Madison Canyon, along the Gibbon River to the falls, thence northeast to the Canyon Hotel, thence northwest to Apollinaris Spring, including all that country that drains into the Gibbon.

During the summer patrols will be made each day to connect with similar patrols from the Canyon and the Lower Basin, for the prevention of forest fires and violation of park regulations.

The Norris Geyser Basin will be watched, and all irregularities in the vicinity of the station prevented.

If mail is not otherwise received, a patrol may be sent to the post for it each ten days.

When arrests are made the facts will be reported to headquarters at once by wire.

The beaver in Winter, Straight, Obsidian, Solfatara, and Cascade creeks and in the Gibbon River must be carefully guarded. Report any moose or sheep sign at once by telephone. Patrol carefully for bear trappers in the whole district.

*Mud Geyser Station.*—The district to be covered by men from this station will include that country on the east of the Yellowstone River between Broad Creek and Beaverdam Creek, and limited by the mountains east of the Park and the Divide, between Pelican Creek and the Lamar River. It also includes the Hayden Valley and the country south as far as the Thumb.

Particular attention will be given to the prevention of poaching.

In summer this station will be moved to the regular camping place near the Lake



Hotel, when its duties will consist mostly in the regulation of camping parties and the prevention of forest fires. For this purpose daily patrols will be made over the roads toward the Canyon and toward the Thumb.

During the winter, if mail is not otherwise received, patrols may be sent every ten days to Norris.

Except in urgent cases members of this station will not be permitted to incur bills at either the Lake or Canyon hotels; such cases will be immediately reported, and cause therefor, by wire.

A special report will be made in regard to buffalo or buffalo signs seen in the district, and great care will be exercised not to pursue or frighten the buffalo on their winter range.

The number and location of fur-bearing animals—especially beaver—will be mentioned in each report.

*Lower Basin.*—The Lower Basin Station will be established when the troops from that camp return to the post.

The ground to be covered by it will be the valley of the Firehole River from its source to the Gibbon, and the valley of the Nez Perce Creek and its tributaries; also the valley of the Gibbon below the falls, and the country drained by Shoshone and Heron (De Lacey) creeks and northeast to the Thumb.

The bear parks and valley of the Little Firehole will also be included in this district. The beaver and all other fur-bearing animals will be carefully protected, and any buffalo sign reported at once by wire.

Particular attention will be given to prevent any access to the buffalo herd by poachers coming over from the west.

Frequent reports will be made by telephone of the condition of affairs about the station.

If mail is not otherwise received, a patrol may be sent to Norris for it each ten days.

After the hotels close especial watch will be kept of all parties entering the district with teams or pack trains, and any parties who interfere with supplies of hay and grain belonging to either hotel or transportation companies will be promptly arrested and returned to headquarters for trial.

S. B. M. YOUNG,

*Colonel Third Cavalry, Acting Superintendent.*

## EXHIBIT 2.

### OFFICE OF DISBURSING QUARTERMASTER, IMPROVEMENT OF YELLOWSTONE NATIONAL PARK, *Mammoth Hot Springs, Wyo., October 25, 1897.*

SIR: I have the honor to submit herewith a statement of the cost of work in the Yellowstone National Park under the appropriation for the "Improvement and protection" of the same during the season of 1897:

#### UNDER CONTRACT FOR GRUBBING AND CLEARING FOR ROADS.

|                                      |          |            |
|--------------------------------------|----------|------------|
| Riverside to west boundary.....      | \$787.50 |            |
| Elk Park to Gibbon Meadows.....      | 180.50   |            |
| Soda Butte toward east boundary..... | 1,066.00 |            |
|                                      |          | \$2,034.00 |

#### SURVEYING.

|   |          |          |
|---|----------|----------|
| Determining exact location of portions of south boundary: |          |          |
| Labor .....   | 1,440.49 |          |
| Saddle horses and pack train.....                         | 570.24   |          |
| Rations, material, tools, etc.....                        | 366.54   |          |
| Office and transportation.....                            | 201.07   |          |
|   |          | 2,578.34 |
| Locating new road from Riverside to west boundary:        |          |          |
| Labor .....   | 60.00    |          |
| Team hire.....  | 18.40    |          |
| Rations, tools, etc.....                                  | 14.32    |          |
| Office and transportation.....                            | 7.84     |          |
|   |          | 100.56   |

## Locating new road from Elk Park to Gibbon Meadows:

|                                 |         |
|---------------------------------|---------|
| Labor .....                     | \$15.00 |
| Team hire .....                 | 4.60    |
| Rations, tools, etc .....       | 2.60    |
| Office and transportation ..... | 1.96    |

\$24.16

## Relocating portion of road to east boundary near Soda Butte:

|                                 |        |
|---------------------------------|--------|
| Labor .....                     | 121.66 |
| Team hire .....                 | 32.20  |
| Rations, tools, etc .....       | 28.00  |
| Office and transportation ..... | 15.38  |

197.24

## Preliminary survey for proposed road to Golden Gate:

|                                 |       |
|---------------------------------|-------|
| Labor .....                     | 28.71 |
| Horse hire .....                | 2.88  |
| Rations, tools, etc .....       | 4.08  |
| Office and transportation ..... | 3.15  |

38.82

## Viewing location for proposed road over Mount Washburn:

|                                 |       |
|---------------------------------|-------|
| Traveling expenses .....        | 38.39 |
| Office and transportation ..... | 3.84  |

42.23

## Determining altitudes and marking same on mileposts, Norris to West Thumb, via Fountain and Upper Basin:

|                                 |       |
|---------------------------------|-------|
| Labor .....                     | 94.31 |
| Team hire .....                 | 26.04 |
| Rations, tools, etc .....       | 16.50 |
| Office and transportation ..... | 9.43  |

146.28

## Locating portion of north boundary and setting posts on same:

|                                 |        |
|---------------------------------|--------|
| Labor .....                     | 545.03 |
| Team hire .....                 | 108.52 |
| Rations, tools, etc .....       | 148.64 |
| Office and transportation ..... | 75.35  |

877.54

## CONSTRUCTION.

## Three miles road, Riverside to west boundary:

|                                 |        |
|---------------------------------|--------|
| Labor .....                     | 500.62 |
| Team hire .....                 | 434.34 |
| Rations, tools, etc .....       | 186.00 |
| Office and transportation ..... | 102.64 |

1,224.20

## Ornamental space at Mammoth Hot Springs, one-fifth mile of roadway, and water trough for carrying water to same:

|  |        |
|--|--------|
| Labor .....                                    | 187.70 |
| Team hire .....                                | 86.05  |
| Rations, tools, etc .....                      | 52.50  |
| Surveying, and office and transportation ..... | 23.37  |

349.62

## New approach to Grand Canyon Hotel and railings at dangerous points along Grand Canyon:

|                                 |        |
|---------------------------------|--------|
| Labor .....                     | 216.09 |
| Team hire .....                 | 50.71  |
| Rations, tools, etc .....       | 44.00  |
| Office and transportation ..... | 19.68  |

330.48

New road to east boundary (Cook City road), from new bridge toward head of canyon,  $2\frac{1}{4}$  miles:

|                                 |          |
|---------------------------------|----------|
| Labor .....                     | 1,556.64 |
| Team hire .....                 | 1,075.75 |
| Rations, tools, etc .....       | 642.24   |
| Office and transportation ..... | 243.23   |

3,517.86

Rockwork at head of canyon,  $1\frac{1}{2}$  miles:

|                                 |          |
|---------------------------------|----------|
| Labor .....                     | 3,533.61 |
| Team hire .....                 | 306.54   |
| Rations, tools, etc .....       | 886.40   |
| Office and transportation ..... | 361.01   |

5,087.56



One-half mile of road from White Pyramid to Black Sand Basin  
at Upper Basin:

|                                 |         |         |
|---------------------------------|---------|---------|
| Labor .....                     | \$30.40 |         |
| Team hire .....                 | 13.80   |         |
| Rations, tools, etc. ....       | 7.48    |         |
| Office and transportation ..... | 4.52    |         |
|                                 | <hr/>   | \$56.20 |

## Grading on 1-mile road, Canyon to Lake:

|                                 |       |        |
|---------------------------------|-------|--------|
| Labor .....                     | 62.00 |        |
| Team hire .....                 | 30.00 |        |
| Rations, tools, etc. ....       | 15.00 |        |
| Office and transportation ..... | 6.00  |        |
|                                 | <hr/> | 113.00 |

## SAWMILL.

|                                 |          |          |
|---------------------------------|----------|----------|
| Labor .....                     | 1,177.25 |          |
| Team hire .....                 | 346.76   |          |
| Rations, tools, etc. ....       | 354.90   |          |
| Office and transportation ..... | 142.40   |          |
|                                 | <hr/>    | 2,021.31 |

## Sawed:

Feet.

|                    |         |
|--------------------|---------|
| Lumber .....       | 210,084 |
| Squared logs ..... | 25,200  |
| Cedar posts .....  | 12,000  |

247,284

At \$8.18 per M. .... 2,020.50

## Hauling lumber for storage at Mammoth Hot Springs from mill:

|                                 |        |        |
|---------------------------------|--------|--------|
| Team hire .....                 | 290.00 |        |
| Rations, tools, etc. ....       | 58.00  |        |
| Office and transportation ..... | 29.00  |        |
|                                 | <hr/>  | 377.00 |

## BRIDGES.

## Building bridge over Gibbon River in Virginia Meadows:

|                                 |       |       |
|---------------------------------|-------|-------|
| Labor .....                     | 19.50 |       |
| Team hire .....                 | 7.95  |       |
| Rations, tools, etc. ....       | 7.00  |       |
| Office and transportation ..... | 2.74  |       |
|                                 | <hr/> | 37.19 |

## Bridge over Trout Creek between Grand Canyon and Lake:

|                                 |       |        |
|---------------------------------|-------|--------|
| Labor .....                     | 55.00 |        |
| Team hire .....                 | 21.24 |        |
| Rations, tools, etc. ....       | 15.68 |        |
| Office and transportation ..... | 8.62  |        |
|                                 | <hr/> | 100.54 |

## Bridge over Firehole River near Riverside Geyser:

|                                 |        |        |
|---------------------------------|--------|--------|
| Labor .....                     | 148.00 |        |
| Team hire .....                 | 72.00  |        |
| Rations, tools, etc. ....       | 48.20  |        |
| Office and transportation ..... | 21.00  |        |
|                                 | <hr/>  | 289.20 |

## Bridge over Gardiner River on road to East Boundary:

|                                 |        |        |
|---------------------------------|--------|--------|
| Labor .....                     | 236.50 |        |
| Team Hire .....                 | 21.92  |        |
| Hauling lumber .....            | 103.00 |        |
| Rations, tools, etc. ....       | 175.72 |        |
| Office and transportation ..... | 36.14  |        |
|                                 | <hr/>  | 573.28 |

## Footbridge over Firehole River at Biscuit Basin:

|                                 |       |       |
|---------------------------------|-------|-------|
| Labor .....                     | 9.00  |       |
| Team hire .....                 | 3.95  |       |
| Rations, tools, etc. ....       | 4.36  |       |
| Office and transportation ..... | 1.29  |       |
|                                 | <hr/> | 18.60 |

## REPAIRS.

## Opening roads at commencement of season:

|                                 |          |          |
|---------------------------------|----------|----------|
| Labor .....                     | \$190.50 |          |
| Team hire .....                 | 72.33    |          |
| Rations, tools, etc .....       | 52.56    |          |
| Office and transportation ..... | 26.28    |          |
|                                 |          | \$341.67 |

## Repairs, Gardiner to Golden Gate:

|                                 |        |          |
|---------------------------------|--------|----------|
| Labor .....                     | 902.00 |          |
| Team hire .....                 | 384.33 |          |
| Rations, tools, etc .....       | 281.50 |          |
| Office and transportation ..... | 154.83 |          |
|                                 |        | 1,722.66 |

## Golden Gate to Yellowstone Lake, via Grand Canyon:

|                                 |          |          |
|---------------------------------|----------|----------|
| Labor .....                     | 2,195.50 |          |
| Team hire .....                 | 951.17   |          |
| Rations, tools, etc .....       | 629.12   |          |
| Office and transportation ..... | 314.66   |          |
|                                 |          | 4,090.45 |

## Norris to Upper Basin, via Fountain:

|                                 |          |          |
|---------------------------------|----------|----------|
| Labor .....                     | 1,600.62 |          |
| Team hire .....                 | 876.75   |          |
| Rations, tools, etc .....       | 495.40   |          |
| Office and transportation ..... | 247.69   |          |
|                                 |          | 3,220.46 |

## Upper Basin to Yellowstone Lake, via West Thumb, including new small bridge near West Thumb:

|                                 |        |        |
|---------------------------------|--------|--------|
| Labor .....                     | 233.25 |        |
| Team hire .....                 | 124.12 |        |
| Rations, tools, etc .....       | 75.12  |        |
| Office and transportation ..... | 35.73  |        |
|                                 |        | 468.22 |

## Repairing bridge over Firehole River near camp of Troop D:

|                                 |       |        |
|---------------------------------|-------|--------|
| Labor .....                     | 70.00 |        |
| Team hire .....                 | 40.00 |        |
| Rations, tools, etc .....       | 38.00 |        |
| Office and transportation ..... | 11.00 |        |
|                                 |       | 159.00 |

## Repairing trestle at Golden Gate:

|                                 |       |       |
|---------------------------------|-------|-------|
| Labor .....                     | 13.50 |       |
| Team hire .....                 | 7.90  |       |
| Rations, tools, etc .....       | 12.00 |       |
| Office and transportation ..... | 2.15  |       |
|                                 |       | 35.55 |

## Repairing all bridges and culverts, between Mammoth Hot Springs and Norris, including new bridge over Green Creek and redecking Indian Creek bridge:

|                                 |        |        |
|---------------------------------|--------|--------|
| Labor .....                     | 105.00 |        |
| Team hire .....                 | 48.72  |        |
| Rations, tools, etc .....       | 38.00  |        |
| Office and transportation ..... | 15.37  |        |
|                                 |        | 207.09 |

## Steamboat:

|                                 |        |        |
|---------------------------------|--------|--------|
| Labor .....                     | 367.50 |        |
| Team hire .....                 | 47.40  |        |
| Rations, tool, etc .....        | 102.44 |        |
| Office and transportation ..... | 41.49  |        |
|                                 |        | 558.83 |

Grand total..... 30,939.14

Respectfully submitted.

J. W. POPE,  
Major and Quartermaster, U. S. A., Disbursing Officer.  
ACTING SUPT. YELLOWSTONE NATIONAL PARK,  
Mammoth Hot Springs, Wyo.



rk

Roads completed: \_\_\_\_\_

Roads projected: \_\_\_\_\_





Roads and trails are indicated as follows:

Roads completed  
Roads proposed

Roads under construction  
Roads available but not now used  
by Park Transportation Company

Trails  
Old wagon trails that are  
used for saddle trails



R E P O R T  
OF THE  
ACTING SUPERINTENDENT  
OF THE  
YELLOWSTONE NATIONAL PARK  
TO THE  
SECRETARY OF THE INTERIOR.

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1 8 9 8 .

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WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1898.





REPORT  
OF THE  
ACTING SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK.

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DEPARTMENT OF INTERIOR,  
YELLOWSTONE NATIONAL PARK,  
OFFICE OF THE SUPERINTENDENT,  
*Mammoth Hot Springs, Wyo., September 30, 1898.*

SIR: I have the honor to submit the following report of the condition, management, protection, and improvement of the Yellowstone National Park from November 10, 1897, the date of the final report of my predecessor, to September 30, 1898:

Maj. Gen. S. B. M. Young, United States Volunteers (Colonel Third Cavalry, acting superintendent), left the Yellowstone National Park on November 15, 1897, and the duties of that position have devolved upon me, as being next in command, and subsequently, in compliance with telegraphic orders from the Department, from that time to the present, except during the period from March 13 to July 11, 1898, when I was on detached service, during which time Lieut. G. O. Cress, Fourth Cavalry, ably performed these duties.

At the time of departure of my predecessor there remained an unexpended balance of \$66.01, with which to keep in repair the road from the Mammoth Hot Springs to Gardiner City, which, on account of its location in the canyon of the Gardiner River, must be constantly worked in the winter season; to protect the game of the park during the winter months from poachers; to open up the usually traveled route of tourists, who begin visiting the park on the 1st of June, and keep the same in repair until the appropriation for this year should become available. Owing to the very small balance of the appropriation remaining unexpended I had to rely mainly for protecting the game upon the services of Lieutenant Lindsley, Fourth Cavalry, and Scouts Morrison and Whittaker, with the assistance of the soldiers on winter station and in garrison. The work done by this officer, and these men, was of the highest importance to the park in the protection of its game, to a large extent prevented poaching, and resulted, in connection with the mild weather of last winter, in a large increase of the game life of all descriptions. The way in which these objects were accomplished will be treated under the heads of "Protection" and "Improvement" later on in this report.

The stage robbery which occurred in the park on August 14, 1897, an account of which was given by my predecessor in his report, was



brought to an end by the trial and conviction of George Reeb and Gus. Smitzer, at Cheyenne, Wyo., before United States court, and they were sentenced to two and one-half years in the penitentiary.

TRAVEL.

To supply the various demands of the public for transportation through the park, it has been found necessary to have and adopt different kinds, viz: Regular stage lines, steamboat transportation on Lake Yellowstone, licensed, and private transportation, whether by wagon, pack train, horseback, or bicycle. The former is represented by the Yellowstone National Park Transportation Company, running its stages from Cinnabar, Mont., on the north of the park, the railroad terminus of a branch line of the Northern Pacific Railway, and over the usually traveled route of tourists, via Mammoth Hot Springs, Norris, Upper Geyser Basin, over the continental divide to Yellowstone Lake, Canyon, Norris, Mammoth Hot Springs, and thence to Cinnabar. The Monida and Yellowstone Stage Company (Humphrey & Haynes) enter the park at Riverside, from Monida, a station on the Oregon Short Line, and travel over the same route as the other stage line, as follows: Fountain Hotel, Upper Geyser Basin, over continental divide to Yellowstone Lake, Canyon, Norris, Mammoth Hot Springs, Norris, thence via Riverside to Monida.

The steamboat company operates one steamboat, which daily makes the trip from the lunch station on the lake (known as West Thumb) to the Lake Hotel, and affords the tourist, whatever means of transportation he may use in making the park trip, an opportunity to take an exceedingly beautiful and interesting trip of some three hours on the lake.

Licensed transportation includes a number of individuals, who, under license from the Department, are authorized to personally conduct parties through the park, furnishing the necessary camp equipage and food. Private transportation, as its name implies, includes all other going through the park, using transportation of their own, of whatever nature.

For the purposes of protection and police, it has been found necessary to register at certain places in the park all persons traveling through it, exclusive of those transported by the regular stage lines, and below will be found a table giving the number of travelers in the park this year and the kind of transportation used.

*Number of persons registered at stations during the season of 1898.*

| Number and location of station. | Camping parties. |       |        |       | Licensed transportation. |       |       |       |
|---------------------------------|------------------|-------|--------|-------|--------------------------|-------|-------|-------|
|                                 | June.            | July. | Aug.   | Sept. | June.                    | July. | Aug.  | Sept. |
| 1. Mammoth Hot Springs.....     | 241              | 512   | 1, 174 | 256   | 66                       | 166   | 352   | 65    |
| 2. Norris <i>a b</i> .....      |                  |       |        |       |                          |       |       |       |
| 3. Canyon <i>a</i> .....        |                  |       |        |       |                          |       |       |       |
| 4. Lake <i>b</i> .....          | 71               | 538   | 1, 263 | 469   | 42                       | 112   | 240   | 30    |
| 5. Thumb <i>a</i> .....         |                  |       |        |       |                          |       |       |       |
| 6. Upper Basin .....            | 25               | 436   | 1, 242 | 471   | 9                        | 70    | 295   | 58    |
| 7. Lower Basin <i>b</i> .....   | 77               | 390   | 1, 327 | 423   | 17                       | 73    | 428   | 61    |
| 8. Snake River <i>b</i> .....   | 24               | 210   | 557    | 219   |                          |       | None. |       |
| 9. Riverside <i>b</i> .....     | 88               | 366   | 911    |       | 19                       | 55    | 88    |       |
| 10. Soda Butte <i>b</i> .....   | 99               | 162   | 170    | 114   |                          |       | None. |       |

*a* No registration required.  
*b* Winter station.

*Number of persons traveling with registered guides (pack trains).*

|                 |       |
|-----------------|-------|
| June .....      | None. |
| July .....      | 39    |
| August .....    | 74    |
| September ..... | 31    |

The aggregate number of tourists visiting the park from opening of season (June 1) to September 30 was 6,534. The aggregate number carried over the regular route by the Yellowstone National Park Transportation Company, was 2,196, and by the Monida and Yellowstone Stage Company, 234; aggregate number carried through by licensed transportation of personally conducted camping parties, 890; aggregate number carried through in private transportation, 3,437; bicyclers, foot travelers, etc., included. During the season 2,256 tourists took the trip across Yellowstone Lake on the steamboat of the Yellowstone Lake Boat Company. Of this number, those who came into the park by the regular stage lines numbered 1,225, and those who went through the park by other means of transportation numbered 1,031.

To determine whether or not the park is becoming more traveled, and fulfilling gradually the mission for which created, viz, as a "pleasuring ground for the benefit and enjoyment of the people", a comparison of totals is made, from record, from 1895 to present date:

*Number of tourists former years.*

|                                    | 1895.  | 1896.  | 1897.   | 1898.  |
|------------------------------------|--------|--------|---------|--------|
| Camping parties .....              | 2, 594 | 1, 797 | 4, 454  | 3, 437 |
| Licensed transportation .....      | 374    | 454    | 1, 354  | 890    |
| Yellowstone Park Association ..... | 2, 470 | 2, 408 | 4, 872  | 2, 207 |
| Total .....                        | 5, 438 | 4, 659 | 10, 680 | 6, 534 |

It will be seen that 1897 brought the greatest number of tourists to the park, but the comparison should not be made with that year as a standard, as a great number of Christian Endeavorers, after their meeting in San Francisco, Cal., returned, via the Northern Pacific Railway, and visited the park. Their number can not be determined, but making reasonable deductions on account of this particular and exceptional class of travel, it will be seen that the season of 1898 in the park shows an increased number of tourists. This is yet more remarkable, as the conditions of the country, owing to the war, diverted more or less attention from the park, and probably decreased in no inconsiderable degree the number of persons traveling for pleasure during the summer.

## SYSTEM OF PATROLING AND POLICING.

The most difficult task that the acting superintendent has to accomplish is to carry out the provisions of the dedicatory act of the park, setting it aside for the benefit and enjoyment of the people. Were it thrown open to the people, without restrictions of any sort, it would be only a short time before it would cease to be a pleasuring ground, while, on the other hand, the restrictions should be of such a nature only as to preserve intact, not only for the present but for the future, the salient and wonderful features which have made the park the most remarkable, as well as the most scientifically interesting, place in the world. The restrictions, as now established and sanctioned by the Interior Department, and enforced by the acting superintendent of



the park through the military force under his command, though sometimes misunderstood and not appreciated by a few of the travelers of the park, seem to fully and completely accomplish the object for which the park was set aside, and I am glad to say the intentional violators of the rules and regulations of the park have been very few.

The system of enforcing them by means of soldiers stationed at nearly regular distances on the usually traveled routes, and who patrol these routes, and especially by guards from these detachments, who are always present at the most interesting points, preventing their desecration and the destruction of the natural phenomena, has been established for some years, and no better could be devised. I know of no case where these soldiers, in the discharge of these very particular and exacting duties, have been other than courteous and polite toward the public, at the same time enforcing the law. These rules and regulations will be found in the appendix marked A.

In addition to these duties, it has been found necessary to keep a complete and accurate record of all who enter and travel through the park, except those who enter by the stage lines, a record of whom is kept at hotels, and this is also done by the soldiers stationed at the various points in the park.

#### HOTELS.

The Yellowstone Park Association owns and controls, under lease from the Department, hotels at the following places in the park: Mammoth Hot Springs, Lower Geyser Basin, Yellowstone Lake, Canyon; also lunch stations at Norris Geyser Basin, Upper Geyser Basin, and Yellowstone Lake. The hotels are so located as to stage travel that tourists using this transportation always finish up their day's journey at a hotel; the lunch stations being merely places to obtain noonday refreshments en route to hotels. It is, I believe, the intention of the association to build a hotel at the Upper Geyser Basin this fall. I trust this will be done, and completed in time for the tourist season of next year. Frequent demands have been made for a hotel at this most wonderful spot; besides, by the erection of this hotel, the present route through the park will be so divided up that much fatigue and discomfort to the tourist will be avoided.

#### PERMANENT CAMPS.

Under authority from the Department, Mr. W. W. Wylie has established permanent camps at the following points: Apollinaris Spring, Upper Geyser Basin, Yellowstone Lake, and Canyon, besides having lunch stations at a point about midway between Norris and Lower Geyser Basin, and near the Yellowstone Lake.

#### INSPECTION BY ACTING SUPERINTENDENT OF THE PARK.

Ever since the opening of the season, and until its close, frequent inspections have been made by me and other officers of the command, of all stage lines and other transportation, of the hotels, lunch stations, and of Mr. Wylie's permanent camps and lunch stations, and of the steamer on the Yellowstone Lake.

I have always found the entire personnel of the Yellowstone National Park Transportation Company polite, courteous, and efficient; their horses and vehicles always in first-class condition, and suited in every way to handle the business required of it.



The Monida and Yellowstone Stage Company is in the first year of its existence, and has employed the following:

|                                 |       |
|---------------------------------|-------|
| Four-horse drivers .....        | 10-12 |
| Two-horse drivers .....         | 4     |
| Stock tenders .....             | 7     |
| Assistant superintendents ..... | 2     |
| Blacksmith .....                | 1     |
| Bookkeeper .....                | 1     |

They had in use the following vehicles:

|  |    |
|--|----|
| Eleven-passenger Concord coaches ..... | 12 |
| Three-passenger Concord surries .....  | 4  |
| Concord buggies .....                  | 2  |

Also:

|  |         |
|--|---------|
| Horses .....                                   | 80      |
| Four-horse Concord harness .....               | sets 16 |
| Two-horse Concord harness .....                | do 8    |
| Blankets, dusters, and complete barn supplies. |         |

This stage company is of the first order in every respect; has given first-class service to its patrons, has opened up a new route to the park through a beautiful country, and I have found its entire personnel, by courtesy and politeness, desirous of making its route popular with the traveling public, which it will undoubtedly be.

Messrs. Humphrey & Haynes, who control the line, are both practical business men, with experience in this business, and are always courteous and obliging.

The steamer *Zillah*, running daily trips on the Yellowstone Lake, under the lease of the Lake Boat Company, and under the personal direction of Mr. E. C. Waters, her captain, who is also president and general manager of the company, has given full satisfaction to the public. I have made many trips on this boat, always found her in perfect condition, and thoroughly safe. The entire personnel of the boat are always attentive and polite to the passengers, doing everything for their pleasure and enjoyment. In addition to the regular tourist business, this steamer has had many excursions.

The hotels and lunch stations of the Yellowstone Park Association, under the able direction and management of Mr. J. H. Dean, fulfill every requirement of the traveling public. No better accommodations and food are furnished anywhere in the United States, under like conditions. The hotels are thoroughly clean and neat throughout, and the service excellent. It should be remembered that all articles of food, except meat, are shipped here, as there is no local market from which the daily supply of edibles can be obtained. I have not heard a single complaint from any guest of any of the hotels.

The permanent camps of Mr. W. W. Wylie seem to fulfill a demand on the part of a certain number of travelers in the park who wish to enjoy whatever benefits and pleasures may be received from camp life. I inspected frequently each of his camps and lunch stations, and found them all neat and clean, with all the comforts one could expect to find in camp. It is not possible to make a comparison between the accommodations furnished by these camps and the hotels. Each comes fully up to the requirements of its especial class, and the personal preference of each visitor to the park must and will determine the way of living while in the park.

Campers are another class of visitors to the park who furnish their own transportation, tentage, etc., and with whom the daily patrols

from stations have most to do in reference to the police and protection of the park.

The transportation under the heading "Licensed" has also been inspected and the camps of these parties looked after, wherever met. Satisfaction seems to have been given in all cases, for I have not heard one word of complaint from any of their patrons. A list of this licensed transportation will be found in the appendix marked B.

With private transportation of all sorts and descriptions the Department is not interested, except pack-mule transportation. Certain rules govern this kind while in the park, rendered necessary by a due regard to the safety of others traveling in vehicles, as well as the safety of the parties using the pack mules. This is the kind of transportation that is most generally used by hunting parties in the fall of the year, wishing to go through the park and hunt in the country south, southeast, and southwest of the park. Such transportation is restricted to the conditions of traveling on the usually traveled roads and leading the pack animals, for the reasons given above. When the party is under the control of a registered guide a greater latitude is allowed to the routes taken through the park, and a guide is only registered when he is personally known to be absolutely competent and reliable. A list of these registered guides will be found in the appendix marked C.

The Monida and Yellowstone Stage Company have seemingly absorbed the business previously conducted by Mr. C. J. Bassett, from Beaver Canyon, Idaho, into the park via the western entrance, as I have no reports of any passengers by his line during the past season, nor has he applied for license to conduct this class of business.

#### CARRYING FIREARMS THROUGH THE PARK.

The custom of carrying firearms of some description is nearly universal among the citizens of States bordering the park, who travel in their own conveyances, or on saddle animals; and of course those desiring to hunt in the country adjacent to the park, and who go through the park either on starting on their trip or returning, are fully equipped in this particular. With reference to all of these individuals, the regulation prohibiting firearms in the park, except on written permission from the acting superintendent, in which case the arms are sealed, has been strictly enforced. It is a wise regulation, and its enforcement is essential to the protection of the park.

The mere fact that this region has been set aside as a national park engenders a feeling of hostility toward it and toward the authorities here, on the part of the people living nearest to it; and the fact that it abounds in game, which is becoming more and more rare in other parts of the United States, intensifies the feeling of enmity. As the benefits to the people of the surrounding country derived from keeping the park intact and the game protected become better understood by them, this hostility will undoubtedly cease; and in performing the duties of acting superintendent I have endeavored to make this plain to all I have been brought in contact with, and, so far as possible, to make them friends of the park.

#### LEASES.

There has been no intentional violation of terms and conditions of any lease during the past year. The rentals under these leases are paid direct to the Department in Washington, except that of Mrs. Jennie H. Ash, which was forwarded through this office under date of August 9, 1898, and its receipt duly acknowledged.



The Monida and Yellowstone Stage Company have constructed on sites selected by me, three neat barns, holding from 8 to 12 horses (one at Upper Geyser Basin, 8 horses; one at Norris Geyser Basin, 12 horses; one at Mammoth Hot Springs, 12 horses), with additions for grain and sleeping quarters for drivers and stock tenders.

At the Fountain, Lake, and Grand Canyon they have used the barns of the Yellowstone Park Association; having made such arrangements until locations are made and permanent barns constructed.

The railway station of this line is Monida, on the Oregon Short Line, 60 miles west from the west entrance to the park ("Dwelles").

Between Dwelles and Monida is operated a daily relay line, and in use on this daily are 32 horses and 2 extra coaches. These extra coaches have been kept at Monida in case more tourists applied than could be accommodated by the daily.

At Dwelles are kept 7 coaches and 3 surreys, with drivers and teams, for park service. At Norris are kept 1 coach and 1 surrey to accommodate tourists holding Northern Pacific tickets, "Norris to Monida", who have made the regular park trip and are ticketed out via Monida. These are picked up at Norris, taken to Dwelles for the night, and then take the daily to Monida the following day.

A barn has been constructed at Monida that will accommodate 20 horses, and wagon sheds to accommodate the entire outfit. Wagons, harness, and equipment will be placed in the Monida barn for the winter and \$20,000 insurance placed on same. Horses will be wintered in the lower Centennial Valley.

Stations have been constructed at Reeds, Red Rock Pass (Klondyke), and at Dwelles. A wagon bridge has been constructed by this company over the south fork of the Madison River, costing \$75; approaches have been built to the Snake River ford, and a crew of 3 men and 1 team have been employed for two months, keeping the road free of rock and in repair.

Madison County appropriated \$500, which was expended in addition upon the road between Monida and Dwelles. This road is now far better than the ordinary country road, and is nearly as good as the roads within the park. I append stage schedule of this company (Appendix G). The plats of the various sites granted under and required by lease from the Department to this company will be forwarded as soon as completed.

The building of Mr. H. E. Klammer, at Upper Geyser Basin, referred to in last year's report as not being then received, has been completed and received. A list of leases now held in the park is hereto appended (Appendix D).

#### UNITED STATES COMMISSIONER AND HIS WORK.

The presence of a United States commissioner at Mammoth Hot Springs to hear and determine cases of violations of the park laws and regulations is eminently satisfactory, and continues to do much to prevent these violations. I append herewith a report of persons tried by him (Appendix E).

#### FIRES.

The park has been exceptionally exempt from forest fires this year, due not only to the thoroughness with which the patrol work was done, but also to the growing carefulness in reference to fires exercised by camping parties and others. On August 8 a fire was reported 9 miles

northwest of Riverside Station, a short distance outside the park limits, but as the direction of the prevailing wind would soon bring it within the park, a detail of officers and men were sent, and after two days of much fatigue and hard work it was brought under control.

On August 26 a fire was reported and located between Barlow's Fork and Heart River in the southeastern portion of the park, but fortunately rain followed for several days, extinguishing it and rendering no work on the part of the troops necessary, other than a careful watch for several days. The causes of neither of these fires could be definitely determined, but that of August 26 unquestionably originated from camp fires carelessly left burning or smoldering. The origin of the fire of August 8 was not so plainly accidental, and the inquiry as to its origin was limited to the determination that its starting point was not within the park limits. It ought not to be difficult for campers in and in the vicinity of the park to understand the incalculable damage, both in the present and for future years, that can be done by not carefully complying with the park laws in this respect.

#### FOREST RESERVES.

Bordering on the eastern and southern limits of the park are two forest reserves, both of which have been recommended by my predecessor to be brought within the park boundaries and made a part thereof. It will be remembered that these tracts of land were set aside and established as a public reservation by proclamation of the President, made on March 30 and September 10, 1891, and though not coming within the provisions of the act of Congress approved May 7, 1894, are yet under the jurisdiction and control of the acting superintendent and the military force in the park for the enforcement of the law setting them aside, especially relating to the preservation of the game. To thoroughly determine the character of the forest reserve on the east, the settlers therein, game, etc., Lieutenant Lindsley, Fourth Cavalry, was sent to investigate the same, and on his return submitted a report which will be found in the appendix (F). It will be seen that there are many settlers in it, some in violation of law, and that a few mining claims are being worked.

The country does not seem to be the habitat of any large quantity of game. The forest reserve on the south contains no settlers, is of no mineral value, and is unquestionably a game country. I would for these reasons, therefore, urge that the forest reserve on the south be made a part of the park, and the forest reserve on the east be not further considered with this end in view. It is probable that whatever opposition has hitherto been encountered in taking in both of these reserves as part of the park would cease, when it is proposed to take in only that one on the south, which possesses only the advantage of being a great game country, and has no mineral or agricultural advantage to settlers. I would also recommend that the necessary legislation be enacted, bringing the forest reserves bordering the park under the provision of the National Park protective act, approved May 7, 1894, to preserve and protect the game. As is set forth in the notice of the Department, which has been placed in conspicuous places in and about the park, "All persons are warned not to hunt nor kill game thereon", and the penalty for doing this is ejection from the reserve, prosecution for trespass, and the holding of such persons pecuniarily responsible for any waste or damage, whether done intentionally or



caused by neglect. Such is the extent of the punishment, and in its present mild form it does not form a sufficient safeguard for the protection of the reserve and its game.

#### PROTECTION.

The following animals are found in the park:

*Antelope*.—These are yet numerous. The snow drives them from the mountains and high plateaus, their feeding and breeding ground in spring and summer, to the lower altitudes outside of the park, where many are killed.

*Bear*.—Plentiful, and have proved destructive to the stores of the detachments on station, lunch stations, and campers. If they continue to increase in the future as in the past, some means will have to be taken to rid the park of the yearly increase. They are numerous at the garbage piles of the hotels, and are objects of much interest and enjoyment to the tourists.

*Buffalo*.—There are probably 50 of these animals yet in the park. They are not increasing—due, I believe, to too much inbreeding. This is about the only wild herd in the United States, and steps should be taken to prevent the extermination of this herd from the evils of inbreeding by the purchase of a few good bulls. Full and ample protection is given these animals, and I believe that with new stock introduced into the herd, an increase would follow.

*Coyotes*.—Very numerous in certain sections. They do some damage to the young elk, but the young deer and antelope are their particular prey. Efforts are made in winter to keep their number down by poisoning carcasses of dead animals, and to a certain extent it has been successful.

*Deer*.—Numerous, on the increase; and the protection afforded them has done much to make them very tame. They are frequently seen by tourists along the usually traveled route.

*Elk*.—Numerous, and are increasing. The park is their breeding place in spring, and feeding ground in winter. Immense herds can be seen in nearly any direction in winter, and in certain localities in summer.

*Fur-bearing animals*.—Beaver, more plentiful than ever before, and their locations in the various streams in the park are carefully watched and protected. Numerous new dams have been constructed. Otter are fairly abundant. Martens are plentiful and widely distributed as are also the Canadian lynx, wild-cat, and mink. Foxes are in goodly number, the black and red being frequently seen, and some timber foxes being reported. There are also some badgers, and a great many muskrats, ground hogs, squirrels, chipmunks, skunks, porcupines, and rabbits. Of the latter there are the cottontails, a few jack-rabbits, many snowshoe rabbits, and the paca, the tiny rock rabbit. All these animals are increasing yearly.

*Moose*.—Quite numerous in the south and southwestern portions of the park and forest reserve, and are apparently increasing.

*Sheep*.—In considerable numbers in various sections of the park; especially are they conspicuous in winter, when they leave the higher peaks and seek a somewhat lower level to feed, and later on to breed. I believe their number is increasing.

*Wolverines*.—While not plentiful are distributed over a large area of the park.

## BIRDS.

Pelicans, geese, ducks, gulls, cranes, swans, ospreys, hawks, eagles, grouse, jays of all kinds, water ousel, robins, kingfishers, and various other small birds abound in the park. The aquatic birds nest here and remain here until late in the fall, and, it is probable, during the winter in streams and lakes where the hot springs prevent entire freezing of the water.

As already stated, at the opening of the winter there was but a balance of \$66.01 remaining on hand for both the protection and improvement. Using this until exhausted, and relying upon the untiring efforts and conscientious work of Lieutenant Lindsley, soldiers, and a volunteer scout, the protection of the park was as efficiently performed, if not to a greater extent, than in former years. The plan adopted was to ascertain the location of all persons who in past years have been guilty, or thought guilty of poaching, and never let them get beyond the surveillance of the park authorities. This was successfully done in many cases, and resulted in the capture and trial of some of them by the United States commissioner; and, with the assistance of the State authorities, by the civil courts, thus deterring others from attempting to poach. Unless actually taking part in the winter work here, the hardships are inconceivable, and I forward herewith as an appendix the report of these trips made by scouts and others, showing the work done. It represents miles of snowshoeing, embracing all portions of the park, under all sorts of weather and temperature, where the parties were their own pack animals, camping usually where night found them, or resorting to the snowshoe shacks, affording but little protection.

The Department supplied sleeping bags, which are of incalculable comfort; and before the winter sets in, comfortable cabins will be built at necessary and convenient points, stocked with rations and bedding, and having stoves, which will lessen materially the hardships and discomforts of these trips. With the end in view of having transportation of some sort for necessary articles for these winter scouting parties, I believed that the reindeer recently purchased by the Government for the Klondike relief party, which was subsequently abandoned, could be used to advantage, and accordingly addressed a letter to the Department asking, if practicable, that a few be sent here for this purpose. It is unfortunate that these animals were so located that they could not be sent here, for in the use of these animals or in sledge dogs lies the solution of winter work in the park.

## FISH.

Many streams and lakes were stocked in 1889, 1890, 1893, and 1895, have multiplied abundantly, and in spite of the enormous quantity caught yearly, and those destroyed by animals and birds, there is apparently an ample quantity yet in all the streams. I endeavored to have a hatchery established in the park, believing this to be the most appropriate and suitable place in the United States, as this is the reservoir drained by the principal rivers of the Atlantic and Pacific oceans, and fish planted in these streams would, with natural conditions fulfilled, soon fill the streams outside the park, but the United States Fish Commission did not deem it advisable. Later on this year, it is my intention to determine if the lake bass planted in certain lakes in the



park have survived; none as yet have been caught, and it is possible that they may have perished for want of proper food. There are certain waters in the park that will afford ample food for them, and, if possible, these waters will be stocked. There is no finer trout fishing in the world than that of the waters of the park, and it is free to all.

From the above it will be seen that the park as a game and fish preserve has not its equal in the world; the variety is great, and it is eminently fitted to sustain this variety under the protection of the Government. An increase in appropriation means an increase in the means and facilities of protection, and as a national game preserve, which not only holds secure the remaining wild animals and game birds of this country, but enables them to breed and multiply, thus supplying the needs of neighboring States, it is deserving of an increased fund for this purpose. This leaves out entirely its charm as a pleasure ground for the tourist, with its wonderful natural phenomena. To maintain both of these conditions there is but one inadequate appropriation for the park, viz, that for its protection and improvement.

#### IMPROVEMENT.

Nature can not be improved upon; the wise policy for years held by the various acting superintendents, has resulted in the laying out of roads interfering the least with natural conditions, and affording the sight-seer with the easiest, most direct, and at the same time safest routes to those wonderful sights which nature has lavishly worked in the park. This work is not yet completed, and some of the grandest scenery and phenomena in the park are yet unseen by the great majority of visitors, on account of lack of means to construct these safe and convenient roads. The first work in the spring, previous to June 1, at which date the stages begin their summer travel, is to send a crew over all the roads, shoveling out snow yet remaining in deep drifts in many places, removing fallen timber, repairing the roads, and making them safe and fit for traveling. As stated before in this report, there were absolutely no funds on hand for this work at the opening of the present season, but with the aid of the scouts and soldiers the roads were opened up, and put in fit condition for travel, and no delay was caused to the tourists.

As is well known, the present traveled route carries the tourist from Cinnabar, via Mammoth Hot Springs, Norris Geyser Basin, Lower Geyser Basin, Upper Geyser Basin, Lake, Canyon, and again to Norris, Mammoth Hot Springs, to Cinnabar; or, arriving at Monida, he enters the park on its western boundary at Riverside, thence to Lower Geyser Basin, and with the exception of the ride from Mammoth Hot Springs to Cinnabar, his route is as above, returning to Monida via Riverside. It is thus seen that 28 miles in one case, and 42 miles in the other is gone over twice, which is objectionable. This can be avoided by the construction of a road from the canyon northward, following the canyon of the Yellowstone River over Mount Washburn, and thence by way of Tower Creek into Yancey's, and thence into the Mammoth Hot Springs.

There are at present two trails leading from the canyon to Yancey's over Mount Washburn, joining about a mile and a half south of Tower Creek. I have been over both of these trails, examining each carefully, both for scenic effect and practicability for road construction, and on both these grounds am thoroughly satisfied that the eastern (or lower) trail is the route to be followed in constructing this road, which will be

about 23 miles long, and can be built for \$45,000. From Yancey's to Mammoth Hot Springs is 20 miles. Some 4 or 5 miles of the most costly part of this road was built last year, and has been kept in thoroughly first-class condition, leaving some 15 miles to construct, costing about \$15,000. It is recommended that this amount (\$60,000) be appropriated for this specific purpose, in addition to the usual annual appropriation for the protection and improvement of the park.

The monthly reports of work done in the improvement of the park have given in detail what has been accomplished the past summer, and the further projected improvement in roads already constructed, as set forth in project submitted at the time the appropriation became available, will be completed before the close of the season.

This will be done within the limits of the appropriation, still keeping sufficient on hand for the protection of the park during the eight months of winter, and for opening the roads for tourist travel beginning on the 1st of next June. Taking out of the appropriation for this year of \$40,000 the smallest necessary amount for protection (\$3,000), there remains but \$37,000 with which to do this work. And when it is remembered there is 170 miles of constructed road which has to be gone over entirely at the commencement of every season, kept in repair for four months of the year, and then put in the best possible shape to withstand the effects of winter, it must be confessed that \$218 is but a scant allowance for each mile of road. I have not the data available to make the comparison, but I doubt if there is any road in the country which is traveled so much by the public, demanding a good road, which costs so little per mile. Here is also seen the impossibility of yielding to the demands of the tourists for more new roads leading to places of interest and beauty reached now only by trails, and not to be carried over twice some portion of the route now used. The amount now appropriated is the smallest amount with which the protection and present road condition in the park can be maintained, and if Congress intends to ratify and make good its dedication of the park to the people of the United States as a pleasuring ground for its benefit and enjoyment, it should yield to the demands of the people and make additional appropriation for the construction of new roads, which will add to their pleasure and benefit by opening new and wonderful phenomena and scenery.

#### NATURAL PHENOMENA OF THE PARK.

There does not seem to be any material change in these during the past year. Certain geysers and hot springs are noted as having become extinct, and others which were quiescent have again become active. The geysers which can be depended upon for regular displays are few in numbers, but constant observation of nearly all of them has enabled their time of eruption to be determined with sufficient accuracy to inform tourists, and give them an opportunity to witness their marvelous displays. There is unquestionably a close connection between temperature of water in the geyser and its time of eruption, certain geysers erupting when the water in their craters reaches a certain temperature, which varies for each geyser, and with the proper instruments for taking temperatures it will not be difficult to foretell the time of display of those geysers which are of greatest celebrity, and thus afford tourists the opportunity of seeing them. I will, if possible, determine the eruptive temperature of the most important geysers before the next tourist season, and will be enabled to give due notice of their eruption.



Mud Geyser has been exceedingly active for a period of two weeks this summer. It has for some years been a somewhat quiescent, boiling mud pool, but in the latter part of July it became more violent, and soon gave a remarkable display of its powers, throwing immense clots of mud 50 and 100 feet away from its crater. It covered the ground and trees in its vicinity and was in this state of eruption for two weeks. It gradually became quiet, but the contents of its crater have changed from boiling mud to boiling dirty water. The Black Growler, in Norris Basin, has also displayed remarkable activity this summer, and the noise of the escaping steam through its crater could be heard for miles; and at the base a mud spring has broken forth, which apparently seems to be growing larger. The Constant Geyser has within the past three weeks ceased to play, after many years of uninterrupted activity.

A new road, now completed, between Elk Park and Gibbon Meadow, on the road from Norris to Fountain, leads past two beautiful chocolate-colored geysers situated on opposite sides of the Gibbon River. They are immense cones. From the top of each a goodly stream of water continually boils and is ejected some feet in the air. The cascades and rapids along the road, which follows the river, are exceedingly picturesque and beautiful.

I forward herewith a map of the park and forest reserve, the same that accompanied the report of last year of the acting superintendent. Upon this I have marked the changes in road system of the park. They are as follows:

Main traveled road, cut off Elk Park to Gibbon Meadow, now notated as completed and used by park transportation companies; road along Madison River from falls of the Firehole River to boundaries of park completed and used by the Monida and Yellowstone Stage Company; road from Upper Geyser Basin to Lone Star Geyser, notated as being used by the same company; projected road from Canyon Hotel to Yancey's, notated so as to show the lower (or eastern) trail as the one recommended to be built, instead of the upper (or western) trail as shown on the map.

My efforts to preserve and maintain the park intact, and for its protection and improvement have been ably seconded by all officers of this command.

Supplementary reports will be submitted at the close of the season, when the weather prevents further work on the roads, and at such times during the coming winter as will keep the Department fully informed of the condition of affairs in the park.

I submit herewith the meteorological record as kept at Fort Yellowstone by the post surgeon.

Very respectfully,

JAMES B. ERWIN,  
*Captain, Fourth Cavalry, Acting Superintendent.*

The SECRETARY OF THE INTERIOR,  
*Washington, D. C.*

## APPENDIX A.

## RULES AND REGULATIONS OF THE YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,  
*Washington, D. C., June 1, 1897.*

The following rules and regulations for the government of the Yellowstone National Park are hereby established and made public pursuant to authority conferred by section 2475, Revised Statutes United States, and the act of Congress approved May 7, 1894:

1. It is forbidden to remove or injure the sediments or incrustations around the geysers, hot springs, or steam vents; or to deface the same by written inscription or otherwise; or to throw any substance into the springs or geyser vents; or to injure or disturb in any manner, or to carry off any of the mineral deposits, specimens, natural curiosities, or wonders within the park.

2. It is forbidden to ride or drive upon any of the geyser or hot spring formations or to turn loose stock to graze in their vicinity.

3. It is forbidden to cut or injure any growing timber. Camping parties will be allowed to use dead or fallen timber for fuel.

4. Fires shall be lighted only when necessary, and completely extinguished when not longer required. The utmost care should be exercised at all times to avoid setting fire to the timber and grass, and anyone failing to comply therewith shall be peremptorily removed from the park.

5. Hunting or killing, wounding or capturing, of any bird or wild animal, except dangerous animals, when necessary to prevent them from destroying life or inflicting an injury, is prohibited. The outfits, including guns, traps, teams, horses, or means of transportation used by persons engaged in hunting, killing, trapping, ensnaring, or capturing such birds or wild animals, or in possession of game killed in the park under other circumstances than prescribed above, will be forfeited to the United States, except in cases where it is shown by satisfactory evidence that the outfit is not the property of the person or persons violating this regulation and the actual owner thereof was not a party to such violation. Firearms will only be permitted in the park on written permission from the superintendent thereof. On arrival at the first station of the park guard, parties having firearms will turn them over to the sergeant in charge of the station, taking his receipt for them. They will be returned to the owners on leaving the park.

6. Fishing with nets, seines, traps, or by the use of drugs or explosives, or in any other way than with hook and line, is prohibited. Fishing for purposes of merchandise or profit is forbidden by law. Fishing may be prohibited by order of the superintendent of the park in any of the waters of the park, or limited therein to any specified season of the year, until otherwise ordered by the Secretary of the Interior.

7. No person will be permitted to reside permanently or to engage in any business in the park without permission, in writing, from the Department of the Interior. The superintendent may grant authority to competent persons to act as guides and revoke the same in his discretion, and no pack trains shall be allowed in the park unless in charge of a duly registered guide.

8. The herding or grading of loose stock or cattle of any kind within the park, as well as the driving of such stock or cattle over the roads of the park, is strictly forbidden, except in such cases where authority therefor is granted by the Secretary of the Interior.

9. No drinking saloon or bar room will be permitted within the limits of the park.

10. Private notices or advertisements shall not be posted or displayed within the park, except such as may be necessary for the convenience and guidance of the public, upon buildings on leased ground.

11. Persons who render themselves obnoxious by disorderly conduct or bad behavior, or who violate any of the foregoing rules, will be summarily removed from the park, and will not be allowed to return without permission, in writing, from the Secretary of the Interior or the superintendent of the park.

Any person who violates any of the foregoing regulations will be deemed guilty of a misdemeanor, and be subjected to a fine as provided by the act of Congress approved May 7, 1894, "to protect the birds and animals in Yellowstone National Park and to punish crimes in said park, and for other purposes," of not more than \$1,000 or imprisonment not exceeding two years, or both, and be adjudged to pay all costs of the proceedings.

CORNELIUS N. BLISS,  
*Secretary of the Interior.*



## INSTRUCTIONS TO PERSONS TRAVELING THROUGH YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,  
OFFICE OF SUPERINTENDENT OF YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., June 20, 1897.*

The following instructions, for the information and guidance of parties traveling through the Yellowstone Park, having received the approval of the Secretary of the Interior, are published for the benefit of all concerned.

(1) *Fires*.—The greatest care must be exercised to insure the complete extinction of all camp fires before they are abandoned. All ashes and unburned bits of wood must, when practicable, be thoroughly soaked with water. Where fires are built in the neighborhood of decayed logs particular attention must be directed to the extinguishment of fires in the decaying mold. Such material frequently smolders for days and then breaks out into dangerous conflagration. Fire may also be extinguished, where water is not available, by a complete covering of earth, well packed down.

(2) *Camps*.—No camp will be made at a less distance than 100 feet from any traveled road. Blankets, clothing, hammocks, or any other article liable to frighten teams must not be hung at a nearer distance than this to the road. The same rule applies to temporary stops, such as for feeding horses or for taking luncheon.

Camp grounds must be thoroughly cleaned before they are abandoned, and such articles as tin cans, bottles, cast-off clothing, and other debris must be either buried or taken to some place where they will not offend the sight.

(3) *Bicycles*.—Many of the horses driven in the park are unused to bicycles and liable to be frightened by them. The greatest care must, therefore, be exercised by their riders. In meeting teams, riders will always dismount and stand at the side of the road—the lower side if the meeting be on a grade. In passing teams from the rear, riders will ring their bells as a warning and inquire of the driver if they may pass. If it appear from the answer that the team is liable to be frightened, they may ask the driver to halt his team and allow them to dismount and walk past.

Riders of bicycles are responsible for all damages caused by failure to properly observe these instructions.

(4) *Fishing*.—All fish less than 6 inches in length should at once be returned to the water with the least damage possible to the fish. No fish should be caught in excess of the number needed for food.

(5) *Dogs*.—When dogs are taken through the park they must be prevented from chasing the animals and birds or annoying passers-by. To this end they must be carried in the wagons or led behind them while traveling, and kept within the limits of the camps when halted. Any dog found at large in disregard of this section will be killed.

(6) *Grazing animals*.—Only animals actually in use for purposes of transportation through the park can be grazed in the vicinity of the camps. They will not be allowed to run over any of the formations, nor near to any of the geysers or hot springs; neither will they be allowed to run loose in the roads.

(7) *Miscellaneous*.—The carving or writing of names or other things on any of the mileposts or signboards, or any of the seats, railings, or other structures, or on the trees, will not be permitted.

Persons are not allowed to bathe near any of the regularly traveled roads in the park without suitable bathing clothes.

(8) Willful disregard of these instructions will result in the ejection of the offending person or persons from the park.

JAMES B. ERWIN,  
*Captain, Fourth Cavalry,*  
*Acting Superintendent of the Yellowstone National Park.*

## INSTRUCTIONS FOR STATIONS, MAY, 1898.

OFFICE OF SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., May 30, 1898.*

## GENERAL INSTRUCTIONS.

It is the duty of the stations to see that all the rules and regulations and the instructions to persons traveling through the park are complied with. Parties violating any of these rules or instructions will be promptly placed under arrest and reported to headquarters. If the station is not in telegraphic communication with headquarters the offending persons may be brought in to the nearest telegraph station, where report of the case will be promptly made. Frequent patrols will be

made into all the territory belonging to the station for the observation and protection of the game and forests. Particular attention will be paid to the prevention and extinguishing of fires, and when any fire is discovered that can not be controlled by the station an immediate report will be made to headquarters.

When the country is so dry that there is danger of fires along the road, the road will be patrolled every morning.

Each noncommissioned officer will be held responsible for the proper policing of his station and of the ground in its vicinity, and all men on station must, except when scouting, wear the proper uniform and must always be neat and clean. All refuse and slops from camp will be buried.

One man must always be left at the station.

Persons carrying firearms or traps through the park must always have a written permit. This permit must be presented at each station passed and must be carefully scrutinized by the man in charge of the station at the time. If it appears that no undue advantage has been taken of the permit, and if the seals are intact and secure, the permit will be indorsed on the back. If the bearer of the permit appears to have violated the conditions thereof, to have unreasonably delayed between stations, he will be held and the case reported at once to the acting superintendent.

Pack trains entering the park may be given a permit by the noncommissioned officer in charge of a station to come in, traveling by wagon roads only, to the nearest station on their route where there is a commissioned officer. Pack trains will not be allowed off the wagon road without permission in writing from a commissioned officer. Persons in charge of pack trains will be instructed that all vehicles have the right of way over pack trains, and that they will be held responsible for interfering with the progress of wagons or frightening their horses.

All noncommissioned officers in charge of stations will send in to the quartermaster on the 15th and last days of each month all receipts for forage furnished and to their troop commander all receipts for meals.

All stations where a register is kept will forward with their report at the end of each month the number of persons who have been registered during the month. The exterior stations will give the number entering and the number leaving the park by their station. Transcript from register of camping parties will not be sent in.

JAMES B. ERWIN,  
*Captain, Fourth Cavalry, Acting Superintendent.*

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#### SPECIAL INSTRUCTIONS.

*Norris.*—The territory belonging to this station in summer is that drained by Solfatara Creek, the Gibbon from the head of Virginia meadows to the head of the Gibbon Canyon, Obsidian Creek to the Crystal Springs, and by Straight and Winter creeks.

Road patrols will extend to the Crystal Springs and 5 miles towards the canyon.

This station is charged with the protection of the Norris Basin, and from the time when the first coaches come in until the last one has left one man must remain on the formation. A man must also be on the formation whenever camping parties are there.

The beaver in the neighboring streams must be carefully watched, the same as in winter.

*Grand Canyon.*—The territory includes the headwaters of the Gibbon to Virginia Meadows and all the country that drains into the Yellowstone from the Mud Geyser to and including Tower Creek. The beaver in Cascade Creek and lake must be carefully watched. Road patrols will extend 6 miles towards Norris and to the Mud Geyser.

*Lake.*—The territory includes all the country draining into the Yellowstone River, above Mud Geyser, and all draining into the lake from Beaverdam Creek to Rocky Point. Road patrols will extend from Mud Geyser to 10-mile post towards the Thumb.

All parties passing this station will be registered in the book provided for that purpose.

*Upper Basin.*—The territory includes all the country that drains into Shoshone Lake from DeLacey Creek to its outlet on the west; all the country that drains into the Firehole River to a point opposite the 5-mile post towards Fountain.

Road patrols will extend 9 miles towards the Thumb and 5 miles towards the Fountain.

A principal and very important duty of this station is to protect the formation from injury or defacement.



All parties who camp at or in the vicinity of the Upper Basin will be registered in the book provided for that purpose.

*Thumb.*—The territory includes all the country that drains into the lake from Rock Point to Beaverdam Creek; also the country that drains into Shoshone Lake from DeLacey Creek to its outlet into Lewis River above the falls, and into Heart Lake. While tourists are at the Thumb, one man will be kept on the formation to enforce the regulations.

Road patrols will extend 9 miles towards the Lake Hotel, 10 miles towards the Upper Basin, and to Lewis Falls.

JAMES B. ERWIN,  
*Captain, Fourth Cavalry, Acting Superintendent.*

OFFICE OF SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., May 30, 1898.*

#### SPECIAL INSTRUCTIONS.

Parties carrying firearms or traps and desiring to enter the park will be closely questioned as to their intentions and purposes. If they intend to leave the park by the same station by which they entered, they will be required to leave their arms at the station. A receipt will be given, and the arms will be cared for and returned to the owners on their exit from the park.

If the parties desire to pass through the park and leave by some other station, the noncommissioned officer will, if he is satisfied that they are reliable parties, seal their guns and issue a permit on the blank forms provided for that purpose. He will instruct the holder of the permit that he must present it at every station he passes for examination and indorsement, and that any violation of the terms of permit or any undue advantage taken of it will result in his arrest and trial.

When parties leave the park, the permit will be taken up by the last station along the route. It will be properly indorsed and sent to headquarters at the end of the month.

The seals will be removed from the guns when permit is taken up.

JAMES B. ERWIN,  
*Captain, Fourth Cavalry, Acting Superintendent.*

#### APPENDIX B.

*List of parties holding license to conduct camping business.*

| No. | Name.                                 | Residence.             | Number of vehicles. | Duration.                 |
|-----|---------------------------------------|------------------------|---------------------|---------------------------|
| 1   | G. W. Torbert .....                   | Cinnabar, Mont. ....   | 4                   | May 26 to Oct. 1, 1898.   |
| 2   | W. E. Knowles and H. M. Gore. ....    | .....do .....          | 5                   | May 27 to Oct. 1, 1898.   |
| 3   | W. S. Dixon .....                     | Livingston, Mont. .... | 3                   | May 28 to Oct. 1, 1898.   |
| 4   | Charlie T. Smith .....                | .....do .....          | 3                   | Do.                       |
| 5   | Alfred Lycan .....                    | Bozeman, Mont. ....    | 5                   | Do.                       |
| 6   | W. J. Kupper .....                    | Cinnabar, Mont. ....   | 4                   | May 30 to Oct. 1, 1898.   |
| 7   | Adam Gassert .....                    | .....do .....          | 5                   | June 6 to Oct. 1, 1898.   |
| 8   | S. M. Fitzgerald .....                | Gardiner, Mont. ....   | 5                   | Do.                       |
| 9   | B. S. Thresher and O. L. Bishop. .... | Butte, Mont. ....      | 5                   | June 16 to Oct. 1, 1898.  |
| 10  | A. L. Roseborough .....               | Gardiner, Mont. ....   | 4                   | June 27 to Oct. 1, 1898.  |
| 11  | Marshall Bros .....                   | Livingston, Mont. .... | 5                   | June 30 to Oct. 1, 1898.  |
| 12  | E. V. Blankenship .....               | Bozeman, Mont. ....    | 5                   | Do.                       |
| 13  | A. W. Chadbourne .....                | Cinnabar, Mont. ....   | 5                   | July 7 to Oct. 1, 1898.   |
| 14  | Shaw & Powell .....                   | Livingston, Mont. .... | 4                   | Aug. 1 to Oct. 1, 1898.   |
| 15  | A. D. Creasey .....                   | Bozeman, Mont. ....    | 3                   | Aug. 9 to Oct. 1, 1898.   |
| 16  | Wm. Wells .....                       | Wells P. O., Wyo. .... | 2                   | Sept. 3 to Oct. 1, 1898.  |
| 17  | G. W. Wakefield .....                 | Livingston, Mont. .... | 2                   | Sept. 13 to Oct. 1, 1898. |

## APPENDIX C.

*List of registered guides.*

| No. | Guide.                 | Residence.                     | Number of animals. | Duration.                  |
|-----|------------------------|--------------------------------|--------------------|----------------------------|
| 1   | William Hagne.....     | Fridley, Mont .....            | 30                 | May 31 to Dec. 31, 1898.   |
| 2   | Richard Randall.....   | Gardiner, Mont .....           | 30                 | July 13 to Dec. 31, 1898.  |
| 3   | Henry George .....     | Cinnabar, Mont .....           | 20                 | Do.                        |
| 4   | John P. Bean .....     | Bozeman, Mont .....            | 20                 | July 16 to Dec. 31, 1898.  |
| 5   | James H. Tappan.....   | Dubois, Wyo.....               | 20                 | July 17 to Dec. 31, 1898.  |
| 6   | Taswell Woody.....     | Pleasant Valley, Y. N. P ..... | 30                 | July 19 to Dec. 31, 1898.  |
| 7   | Burton Harris .....    | Elk P. O., Wyo.....            | 15                 | July 20 to Dec. 31, 1898.  |
| 8   | Oliver Paulsell .....  | Red Lodge, Mont .....          | 10                 | July 25 to Aug. 15, 1898.  |
| 9   | W. T. Hall .....       | Gardiner, Mont .....           | 16                 | July 26 to Dec. 31, 1898.  |
| 10  | Geo. W. Reese .....    | Cinnabar, Mont .....           | 20                 | Aug. 6 to Dec. 31, 1898.   |
| 11  | Elwood Hofer .....     | Gardiner, Mont .....           | 40                 | Aug. 10 to Dec. 31, 1898.  |
| 12  | W. T. Hall .....       | do .....                       | 40                 | Do.                        |
| 13  | Frank Randall.....     | do .....                       | 10                 | Aug. 22 to Oct. 30, 1898.  |
| 14  | Geo. Albert Pfohl..... | Fridley, Mont .....            | 16                 | Aug. 23 to Oct. 31, 1898.  |
| 15  | O. Paulsell.....       | Red Lodge, Mont .....          | 10                 | Aug. 23 to Sept. 15, 1898. |
| 16  | B. D. Sheffield.....   | Livingston, Mont .....         | 30                 | Aug. 23 to Dec. 31, 1898.  |
| 17  | Frank M. Scott .....   | Gardiner, Mont .....           | 15                 | Aug. 25 to Oct. 31, 1898.  |
| 18  | Henry Kitchens .....   | Absarokee, Mont .....          | 12                 | Aug. 29 to Oct. 31, 1898.  |
| 19  | William Nichols.....   | Cooke City, Mont .....         | 13                 | Do.                        |
| 20  | David Black.....       | Chico, Mont .....              | 12                 | Aug. 31 to Nov. 30, 1898.  |
| 21  | Fountain Black.....    | do .....                       | 12                 | Do.                        |
| 22  | Wm. A. Donahoo .....   | Gardiner, Mont .....           | 13                 | Sept. 1 to Oct. 15, 1898.  |
| 23  | Wm. Wells .....        | Wells P. O., Wyo .....         | 20                 | Sept. 3 to Dec. 31, 1898.  |

## APPENDIX D.

## LEASES IN YELLOWSTONE NATIONAL PARK.

Yellowstone Park Transportation Company: Mammoth Hot Springs, 2 acres; Norris, 2 acres; Fountain, 1 acre; Upper Geyser Basin, 2 acres; Lake, 2 acres; Canyon, 1 acre, building, etc., for the accommodation of employees and stock.

Yellowstone Park Association: Mammoth Hot Springs, Mammoth Hotel and commissary; Mammoth Hot Springs, Cottage Hotel and Mammoth Barn; Fountain (Lower Basin), cottages; Fountain, Fountain Hotel and barn; Lake, Lake Hotel and barn; Canyon, Canyon Hotel, pump house, and barn; Upper Geyser Basin, hotel and barn (not yet constructed).

Yellowstone Lake Boat Company: Near Lake Hotel, 2 acres; Frank Island, 2 acres; Stevensons Island, 2 acres; Dot Island, 1 acre; West Thumb, 1 acre; Ways, 2 acres; Southeast Arm, 2 acres; Dot Island Game Corral, 2 acres; to be located by superintendent, 6 acres.

William W. Humphrey and F. Jay Haynes: At Upper Geyser Basin, Thumb, Lake Outlet, Grand Canyon, Norris Geyser Basin, Mammoth Hot Springs, not to exceed 1 acre at each point; building, etc., for the accommodation of employees and stock. (Assignments not yet made.)

Jennie H. Ash: Mammoth Hot Springs, dwelling, post-office, and store.

Ole A. Anderson: Mammoth Hot Springs, dwelling and store.

John F. Yancy: Pleasant Valley, hotel.

F. J. Haynes: Mammoth Hot Springs, studio; Upper Geyser Basin, studio.

Henry E. Klamer: Upper Geyser Basin, dwelling and store.

## APPENDIX E.

*Statement of cases brought before Hon. John W. Meldrum, United States commissioner, since the 1st day of November, 1897.*

*January 11.*—United States *v.* Thomas J. Miner. Charge: Violation of the provisions of the act of Congress approved May 7, 1894, "to protect the birds and animals in Yellowstone National Park, and to punish crimes in said park, and for other purposes." Trial had February 8. Defendant ordered to pay a fine of \$50 and costs.

*February 12.*—United States *v.* James Herzer. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Defendant not yet arrested; could not be found within the district of Wyoming.



*June 27.*—United States *v.* James Courtenay and Richard Murray. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Separate trial of Richard Murray. Defendant fined \$50.

NOTE.—The complaint in this case was filed on the 29th day of October, 1897. Original warrant returned December 18, 1897, "not served." Defendants not found within district of Wyoming. Defendant Murray was brought before the commissioner, by virtue of alias warrant issued June 27. Defendant Courtenay not yet arrested.

*July 12.*—United States *v.* A. K. Crawford. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Defendant not yet arrested; could not be found within the district of Wyoming.

*August 26.*—United States *v.* A. V. Scott. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Defendant ordered to pay a fine of \$25 and costs.

NOTE.—The papers in the cases of United States *v.* James Herzer and A. K. Crawford, respectively, have been transmitted to the United States attorney for the district of Montana, with request that he cause such action to be taken as will place the defendants within the jurisdiction of the authorities of the district of Wyoming.

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#### APPENDIX F.

#### REPORT OF LIEUTENANT LINDSLEY, FOURTH CAVALRY, ON TRIP TO THE EASTERN FOREST RESERVE.

FORT YELLOWSTONE, WYO., *August 30, 1898.*

SIR: I have the honor to submit the following report of my trip to the eastern forest reserve.

Pursuant to your verbal instructions, I left this post on Sunday the 7th instant with Private Miller, of D Troop. I had ten days' rations, and took two pack mules. Went over the old stage-robber trail. Saw 22 antelope, including 5 kids, on Black-tail Deer Creek; also saw numerous signs of elk and bear. I camped on the extreme head of Lava Creek.

On the 8th I showed Private Miller the cabin on Lava Creek, came by Grebe Lake, then over to Cascade Lake, and down Cascade Creek to the Canyon, then by the wagon road to Mud Geyser. Saw many tracks of elk and deer. The beaver in Cascade Lake and Creek are undisturbed and are doing new work.

On the morning of the 9th Private Rompre, of H Troop, reported to me from the Lake Station and accompanied me. I crossed the river 6 miles from the Lake Hotel, went up Pelican, and by Turbid Lake, and up Bear Creek to the forks, where I camped. Saw 3 elk on the Pelican and plenty of elk and deer signs all the way. Saw a beaver house in Turbid Lake, but had no time to examine it.

On the 10th I crossed the divide by Jones Pass and camped on Jones Creek, under Silver Tip Peak. Private Rompre returned to his station from Bear Creek. Saw 7 elk and plenty of elk and bear signs.

On the morning of the 11th the mules had gone back on the trail, and I sent Miller back after them and remained in camp all day.

On the 12th I rode to the mouth of Jones Creek and examined the trails up and down the North Fork of Stinking Water River. Saw no sign of horses, except the trail of the party which preceded me over Jones Pass a few days before. They had gone down the river. Saw one deer track on the North Fork. Saw where some one had camped last spring at the mouth of Jones Creek and had smoked an elk. On the way back to camp saw where an elk and a lynx had died last spring, probably a natural death, as no parts of the carcass had been removed. Miller returned at 7 p. m. with the mules, which he had found at the lake.

On the 13th I went down to the Stinking Water and followed up it to the mouth of Torrent Creek and camped. Examined the trail to Lamar River. It has not been used recently.

On the 14th I followed the North Fork to its head and crossed the divide to the head of Galena Creek and down it to the head of Sunlight Creek and camped. On the divide I found some shaft timber cut and piled up ready for use. Also found a cabin, not used recently, which I afterwards learned belongs to a Mr. Hughes. On Galena Creek saw a tunnel and a cabin and stable. At the mouth of Galena Creek is another cabin and a fence across the valley. Both sides of the divide are very steep, and a good trail has been built at considerable expense apparently. On the Sunlight side the trail is dug out of slide rock for a large part of the way and it zigzags down the mountain side at a very practicable grade for pack animals. I found a Mr. Campbell and Mr. Vickers camped at the cabin on Sunlight. Last fall

Mr. Campbell located a claim in the gulch between Dyke and Black mountains and built the cabin and fences. He has now brought Mr. Vickers, of Red Lodge, in to inspect the prospect and test the ore, with an idea of building a smelter in case they have sufficient pay ore to warrant it. They had 24 horses, only six of them packed, and intended to stay a month or more.

The old Frenchman of Snake River fame, De Voe, had just come in from Red Lodge and camped near Vickers and Campbell. He had 6 horses (4 packs) loaded with rations, bear traps, etc.; also had 5 stag and bloodhounds. All the men had rifles. De Voe said he had a prospect on Copper Creek and was going to stay in camp a few days and pack some of his ore in for Mr. Vickers to test. Then he wanted to come through the park and go south into Wyoming for the winter. He said he wintered last winter on Wapiti Creek (Elk Fork he calls it), and trapped some bear this spring. I learned next day that he was never known to prospect; that he did winter on Wapiti Creek, and went out about July 1, through Sunlight, with several heads, and went to Red Lodge. Everyone I saw complains of him and his dogs. They say the dogs kill many elk and run the rest out of the country. I was told by Mr. Green, who lives near the junction of the two forks of Stinking Water, that there were dead elk all along the North Fork and its tributaries, killed last winter by De Voe's dogs.

On the 15th I went down Sunlight to the "Basin" and camped at Tighe's ranch. Remained there on the 16th and saw every ranch and nearly every settler in the reserve. Learned that Mr. Webster, for whom I was looking, has not come in that way.

On the 17th I went on down Sunlight to Dead Indian Creek and up it to near its head.

On the 18th I went down Rattlesnake to the North Fork and camped at Mr. Green's ranch.

On the 19th I crossed over to the South Fork and came up it by Marquette and Ishawood post-offices and camped at Col. W. F. Cody's ranch, at the mouth of Ishawood and close to the Forest Reserve line. At Mr. Green's I learned that no party had gone up the North Fork this year and only the party from the park had come down.

On the 20th I went up the South Fork to Captain Darley's ranch, making the acquaintance of all the settlers on the way.

On the 21st I went on up as far as McLaughlin's ranch (Valley Home). This is the farthest settler up the South Fork except Mr. Davis, whom I met at Captain Darley's. I then returned to Cody's ranch and camped.

On the 22d I came up Ishawood to near its head.

On the 23d I crossed the Ishawood Pass and came down Pass Creek to the Thorofare and down it to the Yellowstone.

On the 24th I came to the mouth of the Upper Yellowstone and camped, and on the 25th came to the Lake Hotel and camped near the station, ferrying my stuff over the river and swimming my stock.

On the 26th I laid over to let my stock rest, and went to the Thumb by boat for my mail. Found the station there in excellent condition as to police and neatness. On returning to Lake, I saw a big volume of smoke rising from behind Flat Mountain, which I reported to the superintendent by wire. In obedience to your telegraphic orders to locate the fire and find out its size, I then went in the Government boat, with Sergeant Welch and Private Montgomery and Mr. Bowers, to the south arm of the lake. We ran on a bar at Frank Island and had to go ashore in a rowboat, which I had procured from Mr. Waters, and cut some big levers; then got out, waded on the bar, and pried her off. When we reached the south arm it was too dark to go further, so we camped.

The 27th I climbed on foot to the top of the divide, but could not satisfactorily locate the fire from there, so I put the boat into the Flat Mountain arm, made a landing and we climbed Flat Mountain, but had to go on to within 2 miles of Heart Lake before we could locate the fire, on the point between Barlows Fork and Heart River. It rained very hard in the morning, and when I saw the fire it was smoking but evidently not burning very hard. It was over a mile long, however. We returned to the boat and then to the hotel. It rained very hard this evening.

On the 28th I came from the lake to the Canyon, and on the 29th reached this post, having been out twenty-two days, on ten days' rations, plus what I had bought en route.

I saw several elk tracks on Ishawood, perhaps half a dozen, and on Thorofare and the Yellowstone River and Lake saw plenty of elk signs. Saw several moose tracks along the Upper Yellowstone, Thorofare, and the Lake. The beaver dams in Thorofare are deserted, as they are in Beaverdam and Trappers Creek, and all the creeks. There are some bank beaver in the Yellowstone which have escaped the trappers who despoil the colonies in the smaller streams. This is an ideal moose, elk, and



beaver colony, and if a station were put at the mouth of Thorofare, and that country protected, all the streams would soon fill up with beaver, and the moose would increase.

The necessity for a station there and one on Falls River has long been recognized, and now, with the increase in the troops, it will perhaps be practicable.

I saw no game whatever in the reserve, and, except one deer track and a few elk, saw no game signs except in the Thorofare country.

Following is a list of settlers in Sunlight Basin, within the forest reserve:

Gust Latond, single, claimed a ranch last fall. There was a cabin on the place; has made no improvements and does not live on his claim; has 6 or 8 head of cattle.

Mrs. Chatfield. Mr. Chatfield located on Sunlight previous to 1891. He died last winter and his widow occupies the place. She has 33 head of cattle and a few horses; has a fair cabin, corrals, and stable, and has a meadow under fence and ditch. Mr. Chatfield also had a number of mining claims in the reserve.

Charles Hoff located previous to 1891; has 9 head of cattle and 20 horses; has comfortable cabin and good corrals and stable; has a meadow under fence and ditch; has no mining claims.

John Hughes has been in the country a long time and has several mines up the creek. Took up a ranch and built a house last winter. Has no cattle; about 25 work horses.

Jack Tighe located his ranch in April, 1891, and left for the winter, coming back in 1892, since when he has resided permanently on his place. Tighe has about 6 head of cattle and a few horses; has a pasture under fence and will turn it into a meadow as soon as he completes his ditch. Has a comfortable cabin and fair sheds and corrals. Is married. Cuts no hay. Works for other people some, in mines.

Williard Ruscher took up claim last year. Has cabin; poor fences; no stock; cuts no hay. Works in mines and on ranches.

Henry Delaney built cabin last winter; single; has no stock and no fence; works for other people.

John R. Painter has family. Came from Philadelphia three years ago. Located last summer close to line of forest reserve. Has two good cabins and good stable. Has nearly completed a good house of peeled logs, two stories, five rooms on ground floor, shingle roof, large windows, matched floor, etc. Has three miles or more of good wire fence around field which he uses now as a pasture. Intends to get water on it next year and then cut hay on it. Has several cattle, horses, and mules. Came here to engage in mining. Mr. Painter has purchased the interests of Messrs. Malin and Pratt, Baronette and Miller, also part of the interests of Mr. Hughes, and has an entire or a controlling interest in some half dozen mines—the Silver Tip, Evening Star, Rainbow, Pilgrim, Novelty, and others. He has expended considerable money in building roads and trails and developing his mines. He told me he has invested about \$25,000 in the forest reserve. He has shipped about 27 tons of ore, which averaged at the smelter \$152 per ton, and is now getting out six cars of ore to ship to Omaha. This ore he packs on mules about 10 or 12 miles to the mouth of Sulphur Creek, then hauls 55 miles in wagons to Red Lodge, whence it goes over the Northern Pacific Railroad to Billings and down the Burlington to Omaha. The cost of working, transporting, and mining the ore he reports to be about \$50, leaving him \$100 per ton profit. He is working several men in the Evening Star at present, besides the men engaged in transporting the ore to the railroad. He intends to put in a stamp mill and concentrator on the Silver Tip property next year.

Following is a list of settlers on Shoshone River, and within the reserve:

A. E. Swanson settled in 1895; fair log house and stable; 3 miles of fence; 1½ miles of ditch; 12 acres hay; 15 in wheat and oats; 4 head of cattle, 20 horses.

W. H. Jordan settled in 1897; has fair log cabin and stable; 2 miles wood fence; 2 miles ditch; cuts 30 tons of hay; 7 acres in grain; 36 cattle and 7 horses.

John Davis settled in May, 1891; log house and 2 stables; 1½ mile fence; ¾ mile ditch; cuts 15 tons hay; 7½ acres grain; 7 cattle, 8 horses; is a Welchman and miner.

Duff Putnam settled in 1896; 1-room cabin; 2 stables; 160 acres under fence; 300 yards ditch; cuts 10 tons hay; 12 head cattle, 4 horses.

Capt. Henry A. C. Darley is an ex-officer of Royal Artillery; bachelor; settled in 1897; has fair 3-room house and fair stable; 1 mile wire fence, 1½ miles wood fence; 1½ miles ditch; cuts 50 tons hay; has small field oats this year; 80 cattle and 30 horses; hunts for sport only; has 2 mining claims.

Mrs. E. C. Brown settled April 21, 1894; has fair cabin, several rooms; old, fair stable; 2 miles wood fence; 1 mile ditch; cuts 30 tons hay; has a little barley; 24 cattle, about 100 horses; her son, Nona Brown, is a professional guide, but disclaims to be a hunter, and his neighbors say he is not a hunter.

E. M. Brown settled April 21, 1894; has fair cabin and stable; 2 miles wood fence; 1 mile ditch; cuts 30 tons hay; has no cattle; 4 horses.

James McLaughlin settled in 1889 or 1890; has 3 good cabins, a stable; about 1 mile good fence;  $1\frac{1}{2}$  miles ditch; cuts 40 tons hay, and has a fine vegetable garden; 30 head cattle, 9 horses; is a hunter and trapper, but of late devotes his time to ranching and sometimes guides parties to the park: bears a fine reputation among all his neighbors as being absolutely reliable and honest, intelligent, and industrious.

John Hurst; single; settled in 1894; has a good cabin and corral; no stable;  $1\frac{1}{2}$  miles wire fence;  $\frac{1}{2}$  mile ditch; cuts 10 tons hay, and has 8 horses; bears a good reputation; Captain Darley gives him a high recommendation as a guide and hunter; is a young man, and seems honest and very intelligent.

Many of these ranches, both on South Fork and on Sunlight, were located and occupied previous to the dates given above, upon which they were first occupied by their present occupants. These two valleys are the only parts of the reserve which are suitable for agriculture or stock raising. In both places stock winters with very little feed and the snow fall is light.

In view of the improvements put there in good faith by settlers, it seems best to me to allow these valleys to be used, as they are of no use as a reserve.

In the Shoshone mining region many claims have been located and represented, some for several years, but no real development work has been done on any of them. In the Sunlight district considerable development has been done, and I would recommend that suitable regulations be promulgated, allowing settlers to use any suitable lands for agricultural and stock-raising purposes, allowing prospecting and mining operations to be carried on, and the necessary amount of timber to be used, under wise regulations which would prevent waste or spoliation of the forests; that the reservation be not added to the park, except such part of it in the south as drains into the Yellowstone River; that the game laws of Wyoming be enforced in the reserve; and that either a detail of soldiers be made to enforce these regulations or that the reserve be placed under charge of proper civil officials for its administration and protection.

Very respectfully,

ELMER LINDSLEY,  
*First Lieutenant, First Cavalry.*

The ACTING SUPERINTENDENT YELLOWSTONE NATIONAL PARK,  
*Present.*

## APPENDIX G.

### SCHEDULE MONIDA AND YELLOWSTONE STAGE COMPANY.

#### Both ways via Monida:

*First day.*—Leave Monida 8.30 a. m., arrive Shambow 12.30 p. m.; leave Shambow 1.30 p. m., arrive Dwelle's 5.30 p. m.

*Second day.*—Leave Dwelle's 8 a. m., arrive Fountain Hotel 11.30 a. m.

*Third day.*—Leave Fountain Hotel 8 a. m., arrive Upper Basin 10 a. m.; leave Upper Basin 4.30 p. m., arrive Fountain Hotel 6 p. m.

*Fourth day.*—Leave Fountain Hotel 7.30 a. m., arrive West Bay 1 p. m.; leave West Bay 3 p. m., arrive Lake Hotel 5 p. m.

*Fifth day.*—Leave Lake Hotel 9 a. m., arrive Canyon Hotel 12 noon.

*Sixth day.*—Leave Canyon Hotel 9.30 a. m., arrive Norris 12 noon; leave Norris 1.30 p. m., arrive Mammoth Springs 4 p. m.

*Seventh day.*—Leave Mammoth Springs 8 a. m., arrive Norris 12 noon; leave Norris 1.30 p. m., arrive Dwelle's 5.30 p. m.

*Eighth day.*—Leave Dwelle's 8 a. m., arrive Shambow 12 noon; leave Shambow 1 p. m., arrive Monida 6 p. m.

#### In Monida and out via Cinnabar:

*First day.*—Leave Monida 8.30 a. m., arrive Shambow 12.30 p. m.; leave Shambow 1.30 p. m., arrive Dwelle's 5.30 p. m.

*Second day.*—Leave Dwelle's 8 a. m., arrive Fountain Hotel 11.30 a. m.

*Third day.*—Leave Fountain Hotel 8 a. m., arrive Upper Basin 10 a. m.; leave Upper Basin 4.30 p. m., arrive Fountain Hotel 6 p. m.

*Fourth day.*—Leave Fountain Hotel 7.30 a. m., arrive West Bay 1 p. m.; leave West Bay 3 p. m., arrive Lake Hotel 5 p. m.

*Fifth day.*—Leave Lake Hotel 9 a. m., arrive Canyon Hotel 12 noon.

*Sixth day.*—Leave Canyon Hotel 9.30 a. m., arrive Norris 12 noon; leave Norris 1.30 p. m., arrive Mammoth Springs 4 p. m.; leave Mammoth Springs 6.30 p. m., arrive Cinnabar 8 p. m.

Direct connections made at Cinnabar with Northern Pacific Railroad for St. Paul.



| SEPTEMBER, 1897.  |          |          |        |        |                | OCTOBER, 1897. |   |          |          |        |        | NOVEMBER, 1897. |                            |   |          |          |        |        |                |                         |
|---|----------|----------|--------|--------|----------------|----------------|---|----------|----------|--------|--------|-----------------|----------------------------|---|----------|----------|--------|--------|----------------|-------------------------|
| Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.       | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation.  | Remarks.                   | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.                |
| 1.....  | 75       | 42       | 33     | SW.    | .....          |                | 1.....  | 56       | 40       | 16     | SW.    | 0.27            | Rain and sleet.            | 1.....  | 39       | 29       | 10     | S.     | .....          |                         |
| 2.....  | 81       | 42       | 39     | S.     | .....          |                | 2.....  | 48       | 37       | 11     | S.     | .16             | Snow (first storm season). | 2.....  | 59       | 30       | 29     | S.     | .....          |                         |
| 3.....  | 59       | 52       | 7      | NW.    | .....          |                | 3.....  | 56       | 30       | 26     | SW.    | .....           |                            | 3.....  | 56       | 31       | 25     | N.     | .38            | Snow.                   |
| 4.....  | 64       | 44       | 20     | SW.    | .....          |                | 4.....  | 62       | 34       | 28     | SW.    | .....           |                            | 4.....  | 39       | 37       | 2      | N.     | .....          | Earthquake at 2.30 a.m. |
| 5.....  | 77       | 49       | 28     | S.     | .....          |                | 5.....  | 68       | 34       | 34     | W.     | .....           |                            | 5.....  | 34       | 14       | 20     | W.     | .....          |                         |
| 6.....  | 77       | 45       | 32     | SW.    | Trace          |                | 6.....  | 72       | 35       | 37     | SW.    | .09             | Rain.                      | 6.....  | 33       | 22       | 11     | S.     | .20            | Snow.                   |
| 7.....  | 79       | 58       | 21     | S.     | .....          |                | 7.....  | 64       | 49       | 15     | NW.    | .....           |                            | 7.....  | 31       | 15       | 16     | N.     | .10            | Snow.                   |
| 8.....  | 55       | 47       | 8      | NW.    | .....          |                | 8.....  | 54       | 34       | 20     | S.     | .....           |                            | 8.....  | 25       | 11       | 14     | N.     | .15            | Snow.                   |
| 9.....  | 53       | 26       | 27     | NW.    | .....          |                | 9.....  | 58       | 33       | 25     | NW.    | .....           |                            | 9.....  | 27       | 7        | 20     | W.     | .....          |                         |
| 10.....   | 71       | 33       | 38     | S.     | .....          |                | 10.....   | 56       | 28       | 28     | SW.    | .....           |                            | 10.....   | 42       | 18       | 24     | S.     | .....          |                         |
| 11.....   | 71       | 39       | 32     | S.     | .....          |                | 11.....   | 55       | 41       | 14     | NW.    | .....           |                            | 11.....   | 44       | 30       | 14     | S.     | .....          |                         |
| 12.....   | 66       | 46       | 20     | NW.    | Trace          |                | 12.....   | 54       | 35       | 19     | NW.    | .08             | Rain.                      | 12.....   | 47       | 34       | 13     | S.     | .19            | Rain.                   |
| 13.....   | 75       | 37       | 38     | S.     | Trace          |                | 13.....   | 38       | 27       | 11     | N.     | .67             | Snow.                      | 13.....   | 52       | 43       | 9      | S.     | .11            | Rain.                   |
| 14.....   | 56       | 41       | 15     | S.     | Trace          |                | 14.....   | 32       | 23       | 9      | N.     | .15             | Snow.                      | 14.....   | 48       | 35       | 13     | W.     | .30            | Snow.                   |
| 15.....   | 51       | 41       | 10     | S.     | .....          |                | 15.....   | 33       | 19       | 14     | NW.    | .....           |                            | 15.....   | 28       | 20       | 8      | N.     | .....          |                         |
| 16.....   | 61       | 28       | 33     | NW.    | .....          |                | 16.....   | 38       | 14       | 24     | W.     | .....           |                            | 16.....   | 22       | 9        | 13     | NW.    | .....          |                         |
| 17.....   | 74       | 33       | 41     | S.     | .....          |                | 17.....   | 44       | 20       | 24     | SW.    | .....           |                            | 17.....   | 34       | 10       | 24     | SW.    | .....          |                         |
| 18.....   | 72       | 35       | 37     | NW.    | .....          |                | 18.....   | 48       | 27       | 21     | S.     | .....           |                            | 18.....   | 49       | 30       | 19     | S.     | .....          |                         |
| 19.....   | 75       | 35       | 40     | S.     | .....          |                | 19.....   | 58       | 26       | 32     | S.     | .....           |                            | 19.....   | 47       | 38       | 9      | S.     | .....          |                         |
| 20.....   | 74       | 37       | 37     | S.     | .....          |                | 20.....   | 54       | 31       | 23     | S.     | .....           |                            | 20.....   | 54       | 40       | 14     | S.     | .55            | Snow.                   |
| 21.....   | 78       | 37       | 41     | S.     | .....          |                | 21.....   | 63       | 33       | 30     | SW.    | .....           |                            | 21.....   | 40       | 16       | 24     | NW.    | .40            | Snow.                   |
| 22.....   | 74       | 42       | 32     | S.     | .....          |                | 22.....   | 44       | 40       | 4      | N.     | .04             | Rain.                      | 22.....   | 33       | 6        | 27     | N.     | .....          |                         |
| 23.....   | 70       | 45       | 25     | NW.    | .....          |                | 23.....   | 48       | 36       | 12     | S.     | .06             | Rain.                      | 23.....   | 37       | 21       | 16     | SW.    | .....          |                         |
| 24.....   | 73       | 37       | 36     | SW.    | .....          |                | 24.....   | 50       | 38       | 12     | W.     | .....           |                            | 24.....   | 45       | 33       | 12     | N.     | .....          |                         |
| 25.....   | 76       | 41       | 35     | S.     | .....          |                | 25.....   | 38       | 30       | 8      | N.     | .20             | Snow.                      | 25.....   | 38       | 23       | 15     | NW.    | .05            | Snow.                   |
| 26.....   | 73       | 46       | 27     | S.     | .....          |                | 26.....   | 33       | 29       | 4      | NW.    | .....           |                            | 26.....   | 31       | 13       | 18     | S.     | .....          |                         |
| 27.....   | 66       | 43       | 23     | SW.    | 0.27           | Rain.          | 27.....   | 41       | 16       | 25     | W.     | .....           |                            | 27.....   | 26       | 21       | 5      | S.     | .30            | Snow.                   |
| 28.....   | 67       | 38       | 29     | S.     | .....          |                | 28.....   | 55       | 26       | 29     | S.     | .....           |                            | 28.....   | 24       | 6        | 18     | N.     | .15            | Snow.                   |
| 29.....   | 72       | 42       | 30     | SW.    | .....          |                | 29.....   | 59       | 29       | 30     | S.     | .....           |                            | 29.....   | 26       | 1        | 25     | S.     | .10            | Snow.                   |
| 30.....   |          |          |        |        |                |                | 30.....   | 52       | 30       | 22     | SW.    | .....           |                            | 30.....   | 35       | 21       | 14     | S.     | .....          |                         |
| Total.  | 2,091    | 1,218    | 873    | .....  | .31            |                | Total.  | 1,586    | 950      | 636    | .....  | 1.72            |                            | Total.  | 1,145    | 664      | 481    | .....  | 2.98           |                         |
| Mean.   | 69.70    | 40.60    | 29.10  | S.     | .....          |                | Mean.   | 51.16    | 30.64    | 20.51  | SW.    | .....           |                            | Mean.   | 38.16    | 22.13    | 16.03  | S.     | .....          |                         |
| Maximum, 81° on 2d instant; minimum, 26° on 9th instant; mean, 55.15°; total precipitation, 0.31 inch; prevailing winds, south. |          |          |        |        |                |                | Maximum, 72° on 6th instant; minimum, 14° on 16th instant; mean, 40.90°; total precipitation, 1.72 inches; prevailing winds, southwest. |          |          |        |        |                 |                            | Maximum, 59° on 2d instant; minimum, 1° on 29th instant; mean, 30.15°; total precipitation, 2.98 inches; prevailing winds, south. |          |          |        |        |                |                         |

METEOROLOGICAL REGISTER, FORT YELLOWSTONE, WYO.—Continued.

| DECEMBER, 1897.  |          |          |        |        |                     | JANUARY, 1898. |   |          |          |        |        | FEBRUARY, 1898.     |          |  |          |          |        |        |                     |          |
|--|----------|----------|--------|--------|---------------------|----------------|---|----------|----------|--------|--------|---------------------|----------|--|----------|----------|--------|--------|---------------------|----------|
| Date.  | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks.       | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.  | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. |
| 1.....   | 30       | 15       | 15     | .....  | .....               |                | 1.....  | 25       | 3        | 22     | S.     | .....               |          | 1.....   | 32       | 10       | 22     | S.     | .....               |          |
| 2.....   | 28       | 7        | 21     | S.     | .....               |                | 2.....  | 39       | 9        | 30     | NW.    | .....               |          | 2.....   | 31       | 5        | 26     | S.     | .....               |          |
| 3.....   | 23       | —        | 28     | S.     | .....               |                | 3.....  | 36       | 25       | 11     | S.     | .....               |          | 3.....   | 31       | 18       | 13     | SW.    | 0.01                | Snow.    |
| 4.....   | 29       | 11       | 18     | N.     | .....               |                | 4.....  | 37       | 15       | 12     | SW.    | Trace               |          | 4.....   | 30       | 19       | 11     | S.     | Trace               |          |
| 5.....   | 30       | 19       | 11     | SW.    | 0.05                | Snow.          | 5.....  | 32       | 25       | 7      | SW.    | .....               |          | 5.....   | 39       | 19       | 20     | S.     | .....               |          |
| 6.....   | 37       | 23       | 14     | W.     | .....               |                | 6.....  | 34       | 25       | 9      | S.     | .....               |          | 6.....   | 37       | 32       | 5      | S.     | .....               |          |
| 7.....   | 35       | 29       | 6      | SW.    | .10                 | Snow.          | 7.....  | 32       | 20       | 12     | SW.    | 0.01                | Snow.    | 7.....   | 40       | 31       | 9      | SW.    | .....               |          |
| 8.....   | 36       | 25       | 11     | S.     | .45                 | Snow.          | 8.....  | 23       | 15       | 8      | S.     | .10                 | Snow.    | 8.....   | 39       | 22       | 17     | SW.    | .....               |          |
| 9.....   | 27       | 19       | 8      | S.     | .....               |                | 9.....  | 23       | 13       | 10     | S.     | .20                 | Snow.    | 9.....   | 26       | 7        | 19     | S.     | .....               |          |
| 10.....  | 31       | 19       | 12     | S.     | .....               |                | 10.....   | 17       | 1        | 16     | NW.    | .....               |          | 10.....  | 34       | 12       | 22     | N.     | .....               |          |
| 11.....  | 31       | 18       | 13     | SW.    | .....               |                | 11.....   | 15       | 3        | 12     | SW.    | .....               |          | 11.....  | 34       | 13       | 21     | S.     | .....               |          |
| 12.....  | 32       | 23       | 9      | S.     | .....               |                | 12.....   | 16       | 6        | 10     | S.     | .....               |          | 12.....  | 36       | 23       | 13     | S.     | .....               |          |
| 13.....  | 33       | 14       | 19     | S.     | .10                 | Snow.          | 13.....   | 18       | 4        | 14     | S.     | Trace               |          | 13.....  | 33       | 21       | 12     | SW.    | .....               |          |
| 14.....  | 30       | 16       | 14     | S.     | .....               |                | 14.....   | 15       | —        | 21     | NW.    | .....               |          | 14.....  | 41       | 29       | 12     | S.     | .10                 | Snow.    |
| 15.....  | 0        | —        | 5      | N.     | .....               |                | 15.....   | 25       | 10       | 15     | N.     | .....               |          | 15.....  | 38       | 33       | 5      | S.     | .....               |          |
| 16.....  | 6        | —        | 25     | N.     | .....               |                | 16.....   | 22       | 12       | 10     | S.     | .....               |          | 16.....  | 37       | 16       | 21     | SW.    | .80                 | Snow.    |
| 17.....  | 16       | —        | 20     | SW.    | .....               |                | 17.....   | 21       | 4        | 17     | SE.    | .....               |          | 17.....  | 13       | 1        | 12     | NW.    | .10                 | Snow.    |
| 18.....  | 17       | 3        | 14     | S.     | .....               |                | 18.....   | 24       | 5        | 19     | SW.    | .....               |          | 18.....  | 20       | 3        | 17     | N.     | .....               |          |
| 19.....  | 18       | 4        | 14     | S.     | .....               |                | 19.....   | 27       | 15       | 12     | S.     | .....               |          | 19.....  | 29       | 8        | 21     | N.     | .....               |          |
| 20.....  | 13       | 1        | 12     | NE.    | .....               |                | 20.....   | 23       | 5        | 18     | SW.    | .....               |          | 20.....  | 38       | 19       | 19     | S.     | .....               |          |
| 21.....  | 18       | 3        | 15     | S.     | .....               |                | 21.....   | 20       | 3        | 23     | S.     | .....               |          | 21.....  | 39       | 20       | 19     | S.     | .20                 | Snow.    |
| 22.....  | 25       | 7        | 18     | S.     | .....               |                | 22.....   | 17       | 8        | 9      | N.     | .....               |          | 22.....  | 28       | 5        | 23     | SW.    | .....               |          |
| 23.....  | 29       | 5        | 24     | S.     | .....               |                | 23.....   | 18       | —        | 19     | SW.    | .....               |          | 23.....  | 32       | 2        | 30     | N.     | .....               |          |
| 24.....  | 27       | 19       | 8      | S.     | .....               |                | 24.....   | 10       | —        | 30     | N.     | .....               |          | 24.....  | 45       | 9        | 36     | NW.    | .....               |          |
| 25.....  | 29       | 17       | 12     | S.     | .....               |                | 25.....   | 8        | —        | 23     | N.     | .....               |          | 25.....  | 35       | 21       | 14     | S.     | .....               |          |
| 26.....  | 31       | 15       | 16     | S.     | .....               |                | 26.....   | 9        | —        | 15     | N.     | .....               |          | 26.....  | 39       | 13       | 26     | SW.    | .....               |          |
| 27.....  | 34       | 25       | 9      | S.     | .....               |                | 27.....   | 19       | 3        | 16     | NW.    | .....               |          | 27.....  | 45       | 12       | 33     | SW.    | .....               |          |
| 28.....  | 37       | 30       | 7      | N.     | .10                 | Snow.          | 28.....   | 23       | —        | 29     | SW.    | .....               |          | 28.....  | 45       | 12       | 33     | SW.    | .....               |          |
| 29.....  | 37       | 31       | 6      | SW.    | .....               |                | 29.....   | 26       | 5        | 21     | N.     | .....               |          | 29.....  | 45       | 12       | 33     | SW.    | .....               |          |
| 30.....  | 23       | 15       | 8      | SW.    | .....               |                | 30.....   | 30       | 13       | 17     | S.     | .....               |          | 30.....  | 45       | 12       | 33     | SW.    | .....               |          |
| 31.....  | 15       | —        | 21     | NW.    | .....               |                | 31.....   | 33       | 9        | 24     | SW.    | .....               |          | 31.....  | 42       | 23       | 19     | S.     | .....               |          |
| Total.   | 807      | 374      | 433    | .....  | .80                 |                | Total.  | 717      | 310      | 511    | .....  | .31                 |          | Total.   | 963      | 446      | 517    | .....  | 1.21                |          |
| Mean.  | 26.03    | 12.06    | 13.96  | S.     | .....               |                | Mean.   | 23.12    | 10.00    | 16.48  | SW.    | .....               |          | Mean.  | 34.39    | 15.92    | 18.46  | S.     | .....               |          |
| Maximum, 37° on 6th, 28th, and 29th instant; minimum, —19° on 16th instant; mean, 19.04°; total precipitation, 0.80 inch; prevailing winds, south. |          |          |        |        |                     |                | Maximum, 39° on 2d instant; minimum, —20° on 24th instant; mean, 14.72°; total precipitation, 0.31 inch; prevailing winds, southwest. |          |          |        |        |                     |          | Maximum, 45° on 24th and 27th instant; minimum, 1° on 17th instant; mean, 25.15°; total precipitation, 1.21 inches; prevailing winds, south. |          |          |        |        |                     |          |



| MARCH, 1898. |          |          |        |        |                |          | APRIL, 1898. |          |          |        |        |                |          | MAY, 1898. |          |          |        |        |                |                 |
|--------------|----------|----------|--------|--------|----------------|----------|--------------|----------|----------|--------|--------|----------------|----------|------------|----------|----------|--------|--------|----------------|-----------------|
| Date.        | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. | Date.        | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. | Date.      | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.        |
| 1.....       | 40       | 26       | 14     | N.     | .....          |          | 1.....       | 44       | 6        | 38     | SW.    | .....          |          | 1.....     | 38       | 26       | 12     | NW.    | Trace          |                 |
| 2.....       | 44       | 24       | 20     | S.     | .....          |          | 2.....       | 51       | 27       | 24     | SW.    | .....          |          | 2.....     | 35       | 24       | 11     | N.     | Trace          |                 |
| 3.....       | 39       | 27       | 12     | SW.    | .....          |          | 3.....       | 31       | 24       | 7      | NW.    | 0.10           | Snow.    | 3.....     | 40       | 25       | 15     | N.     | .....          |                 |
| 4.....       | 37       | 25       | 12     | NW.    | .....          |          | 4.....       | 38       | 18       | 20     | SW.    | .....          |          | 4.....     | 44       | 25       | 19     | NW.    | Trace          |                 |
| 5.....       | 41       | 17       | 24     | S.     | .....          |          | 5.....       | 46       | 12       | 34     | S.     | .....          |          | 5.....     | 54       | 23       | 31     | SW.    | Trace          |                 |
| 6.....       | 43       | 20       | 23     | SW.    | .....          |          | 6.....       | 50       | 22       | 28     | SW.    | .....          |          | 6.....     | 59       | 30       | 29     | SW.    | .....          |                 |
| 7.....       | 45       | 23       | 22     | SE.    | 0.20           | Snow.    | 7.....       | 38       | 25       | 13     | SW.    | .05            | Snow.    | 7.....     | 54       | 39       | 15     | W.     | .....          |                 |
| 8.....       | 40       | 18       | 22     | NW.    | .....          |          | 8.....       | 42       | 25       | 17     | S.     | .....          |          | 8.....     | 59       | 30       | 29     | NW.    | .....          |                 |
| 9.....       | 23       | 17       | 6      | N.     | .....          |          | 9.....       | 54       | 31       | 23     | SW.    | .....          |          | 9.....     | 65       | 30       | 35     | W.     | .....          |                 |
| 10.....      | 25       | 2        | 23     | N.     | .....          |          | 10.....      | 59       | 32       | 27     | SW.    | .....          |          | 10.....    | 70       | 35       | 35     | W.     | .....          |                 |
| 11.....      | 26       | 1        | 25     | NW.    | .10            | Snow.    | 11.....      | 51       | 31       | 20     | SW.    | .30            | Snow.    | 11.....    | 62       | 43       | 19     | SW.    | .....          |                 |
| 12.....      | 32       | 2        | 30     | SW.    | Trace          |          | 12.....      | 54       | 25       | 29     | SW.    | .....          |          | 12.....    | 58       | 37       | 21     | N.     | .....          |                 |
| 13.....      | 32       | 19       | 13     | NW.    | .30            |          | 13.....      | 59       | 34       | 25     | SW.    | .....          |          | 13.....    | 65       | 35       | 30     | SW.    | .....          |                 |
| 14.....      | 27       | 13       | 14     | NW.    | .....          |          | 14.....      | 65       | 35       | 30     | SW.    | .....          |          | 14.....    | 65       | 34       | 31     | SW.    | .....          |                 |
| 15.....      | 29       | 7        | 22     | N.     | .....          |          | 15.....      | 68       | 34       | 34     | SW.    | .....          |          | 15.....    | 61       | 34       | 27     | NW.    | 0.15           | Rain.           |
| 16.....      | 24       | 0        | 24     | N.     | .....          |          | 16.....      | 58       | 36       | 22     | NE.    | Trace          |          | 16.....    | 56       | 37       | 19     | N.     | .....          |                 |
| 17.....      | 32       | —        | 34     | N.     | .....          |          | 17.....      | 47       | 35       | 12     | NE.    | Trace          |          | 17.....    | 51       | 40       | 11     | N.     | .30            | Rain.           |
| 18.....      | 26       | 7        | 19     | N.     | .....          |          | 18.....      | 48       | 28       | 20     | NE.    | .....          |          | 18.....    | 54       | 37       | 17     | SE.    | .15            | Rain.           |
| 19.....      | 25       | 6        | 19     | NW.    | Trace          |          | 19.....      | 52       | 24       | 28     | NE.    | .....          |          | 19.....    | 52       | 37       | 15     | SW.    | .10            | Snow.           |
| 20.....      | 30       | 19       | 11     | S.     | .30            | Snow.    | 20.....      | 53       | 31       | 22     | N.     | .....          |          | 20.....    | 47       | 30       | 17     | NW.    | .....          |                 |
| 21.....      | 26       | 4        | 30     | N.     | .50            | Snow.    | 21.....      | 54       | 37       | 17     | NE.    | .30            | Snow.    | 21.....    | 58       | 32       | 26     | SW.    | .....          |                 |
| 22.....      | 16       | —22      | 38     | NW.    | .....          |          | 22.....      | 52       | 35       | 17     | NW.    | .....          |          | 22.....    | 62       | 40       | 22     | NW.    | .....          |                 |
| 23.....      | 25       | 6        | 19     | S.     | .....          |          | 23.....      | 54       | 32       | 22     | SE.    | .....          |          | 23.....    | 58       | 40       | 18     | NW.    | 0.45           | Rain.           |
| 24.....      | 35       | 18       | 17     | S.     | .....          |          | 24.....      | 62       | 28       | 34     | SE.    | .....          |          | 24.....    | 48       | 37       | 11     | N.     | .....          |                 |
| 25.....      | 32       | 28       | 14     | NW.    | .....          |          | 25.....      | 67       | 34       | 33     | NW.    | .....          |          | 25.....    | 55       | 40       | 15     | NE.    | .....          |                 |
| 26.....      | 21       | 5        | 16     | NW.    | .....          |          | 26.....      | 68       | 43       | 25     | NW.    | .....          |          | 26.....    | 59       | 42       | 17     | NE.    | .....          |                 |
| 27.....      | 25       | —7       | 30     | S.     | .....          |          | 27.....      | 52       | 30       | 22     | W.     | .....          |          | 27.....    | 73       | 39       | 34     | NW.    | .....          |                 |
| 28.....      | 29       | 6        | 33     | NW.    | .....          |          | 28.....      | 59       | 27       | 32     | SW.    | .....          |          | 28.....    | 58       | 41       | 17     | SW.    | .45            | Rain.           |
| 29.....      | 29       | —1       | 30     | SW.    | .....          |          | 29.....      | 55       | 30       | 25     | NW.    | .....          |          | 29.....    | 58       | 36       | 22     | NW.    | .10            | Rain.           |
| 30.....      | 32       | 13       | 19     | SW.    | .....          |          | 30.....      | 42       | 28       | 14     | NW.    | .20            | Snow.    | 30.....    | 56       | 38       | 18     | SW.    | .25            | Rain and sleet. |
| 31.....      | 34       | 13       | 21     | SW.    | .....          |          | 31.....      | 42       | 28       | 14     | NW.    | .....          |          | 31.....    | 52       | 29       | 23     | SW.    | .....          |                 |
| Total        | 964      | 326      | 638    | .....  | 1.40           |          | Total        | 1,573    | 859      | 714    | .....  | .95            |          | Total      | 1,726    | 1,065    | 661    | .....  | 1.95           |                 |
| Mean         | 31.09    | 10.51    | 20.58  | NW.    | .....          |          | Mean         | 52.43    | 28.63    | 23.80  | SW.    | .....          |          | Mean       | 55.67    | 34.35    | 21.32  | SW.    | .....          |                 |

Maximum, 45° on 7th instant; minimum, —22° on 22d instant; mean, 20.80°; total precipitation, 1.40 inches; prevailing winds, northwest.

Maximum, 68° on 15th and 26th instant; minimum, 6° on 1st instant; mean, 41.03°; total precipitation, 0.95 inch; prevailing winds, southwest.

Maximum, 73° on 27th instant; minimum, 23° on 5th instant; mean, 47.51°; total precipitation, 1.95 inches; prevailing winds, southwest.

Maximum, 45° on 7th instant; minimum, —22° on 22d instant; mean, 20.80°; total precipitation, 1.40 inches; prevailing winds, northwest.

Maximum, 68° on 15th and 26th instant; minimum, 6° on 1st instant; mean, 41.03°; total precipitation, 0.95 inch; prevailing winds, southwest.

Maximum, 73° on 27th instant; minimum, 23° on 5th instant; mean, 47.51°; total precipitation, 1.95 inches; prevailing winds, southwest.

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| JUNE, 1898.   |          |          |        |        |                |          | JULY, 1898.   |          |          |        |        |                |          | AUGUST, 1898.  |          |          |        |        |                |          |
|---|----------|----------|--------|--------|----------------|----------|---|----------|----------|--------|--------|----------------|----------|--|----------|----------|--------|--------|----------------|----------|
| Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. | Date.  | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. |
| 1.....  | 61       | 39       | 22     | SW.    | 0.32           | Rain.    | 1.....  | 50       | 39       | 11     | N.     | .....          |          | 1.....   | 73       | 48       | 25     | N.     | .....          |          |
| 2.....  | 53       | 35       | 18     | NW.    | .....          |          | 2.....  | 67       | 32       | 35     | W.     | .....          |          | 2.....   | 78       | 40       | 38     | N.     | .....          |          |
| 3.....  | 46       | 31       | 15     | NW.    | .....          |          | 3.....  | 76       | 40       | 36     | SW.    | .....          |          | 3.....   | 84       | 47       | 37     | N.     | .....          |          |
| 4.....  | 48       | 36       | 12     | NW.    | .15            | Rain.    | 4.....  | 80       | 47       | 33     | SW.    | .....          |          | 4.....   | 81       | 47       | 34     | N.     | .....          |          |
| 5.....  | 52       | 34       | 18     | NW.    | .....          |          | 5.....  | 81       | 53       | 28     | SW.    | .....          |          | 5.....   | 67       | 49       | 18     | N.     | 0.10           |          |
| 6.....  | 56       | 34       | 22     | NW.    | .02            | Rain.    | 6.....  | 78       | 44       | 34     | SW.    | .....          |          | 6.....   | 74       | 37       | 37     | N.     | .....          |          |
| 7.....  | 64       | 32       | 32     | NW.    | .....          |          | 7.....  | 81       | 49       | 32     | SW.    | 0.15           | Rain.    | 7.....   | 79       | 42       | 37     | NW.    | .....          |          |
| 8.....  | 69       | 35       | 34     | NW.    | .....          |          | 8.....  | 80       | 47       | 33     | SW.    | .30            | Rain.    | 8.....   | 84       | 46       | 38     | N.     | .....          |          |
| 9.....  | (a)      | 38       | .....  | NW.    | .....          |          | 9.....  | 79       | 45       | 34     | W.     | .....          |          | 9.....   | 85       | 49       | 36     | N.     | .....          |          |
| 10.....   | (a)      | 39       | .....  | NW.    | .....          |          | 10.....   | 86       | 51       | 35     | SW.    | .....          |          | 10.....  | 84       | 54       | 30     | E.     | .....          |          |
| 11.....   | (a)      | 40       | .....  | W.     | .50            | Rain.    | 11.....   | 87       | 49       | 38     | SW.    | .....          |          | 11.....  | 84       | 50       | 34     | SW.    | .....          |          |
| 12.....   | (a)      | 40       | .....  | NW.    | .....          |          | 12.....   | 77       | 57       | 20     | S.     | .60            | Rain.    | 12.....  | 89       | 54       | 35     | SW.    | .....          |          |
| 13.....   | (a)      | 43       | .....  | NW.    | .20            | Rain.    | 13.....   | 79       | 49       | 30     | SW.    | .....          |          | 13.....  | 74       | 50       | 24     | SW.    | .....          |          |
| 14.....   | (a)      | 45       | .....  | W.     | .15            | Rain.    | 14.....   | 86       | 52       | 34     | SW.    | .....          |          | 14.....  | 70       | 50       | 20     | SW.    | .25            | Rain.    |
| 15.....   | (a)      | 39       | .....  | SW.    | .....          |          | 15.....   | 86       | 51       | 35     | SW.    | .....          |          | 15.....  | 76       | 53       | 23     | W.     | .30            | Rain.    |
| 16.....   | (a)      | 52       | .....  | S.     | .....          |          | 16.....   | 86       | 51       | 35     | SW.    | .....          |          | 16.....  | 72       | 49       | 23     | SW.    | .15            | Rain.    |
| 17.....   | 80       | 49       | 31     | S.     | .....          |          | 17.....   | 77       | 48       | 29     | SW.    | .....          |          | 17.....  | 78       | 44       | 34     | SW.    | .....          |          |
| 18.....   | 87       | 49       | 38     | S.     | .....          |          | 18.....   | 66       | 39       | 27     | W.     | .....          |          | 18.....  | 84       | 42       | 42     | SW.    | .....          |          |
| 19.....   | 87       | 55       | 32     | S.     | .....          |          | 19.....   | 70       | 43       | 27     | W.     | .....          |          | 19.....  | 86       | 42       | 44     | SW.    | .....          |          |
| 20.....   | 76       | 49       | 27     | SE.    | .....          |          | 20.....   | 80       | 39       | 41     | SW.    | .....          |          | 20.....  | 87       | 49       | 38     | SW.    | .....          |          |
| 21.....   | 74       | 39       | 35     | S.     | .....          |          | 21.....   | 77       | 52       | 25     | SW.    | .....          |          | 21.....  | 83       | 55       | 28     | SW.    | .....          |          |
| 22.....   | 83       | 47       | 36     | S.     | .....          |          | 22.....   | 81       | 45       | 36     | SW.    | .10            | Rain.    | 22.....  | 74       | 44       | 30     | NW.    | .....          |          |
| 23.....   | 71       | 53       | 18     | S.     | .35            | Rain.    | 23.....   | 72       | 47       | 25     | SW.    | .....          |          | 23.....  | 77       | 40       | 37     | SW.    | .....          |          |
| 24.....   | 66       | 46       | 20     | SW.    | .45            | Rain.    | 24.....   | 81       | 40       | 41     | SW.    | .....          |          | 24.....  | 84       | 41       | 43     | SW.    | .....          |          |
| 25.....   | 68       | 50       | 18     | SW.    | .....          |          | 25.....   | 87       | 46       | 41     | SW.    | .....          |          | 25.....  | 83       | 42       | 41     | SW.    | .....          |          |
| 26.....   | 71       | 35       | 36     | S.     | .....          |          | 26.....   | 82       | 49       | 33     | S.     | .....          |          | 26.....  | 88       | 45       | 43     | NW.    | .....          |          |
| 27.....   | 80       | 46       | 34     | SW.    | .....          |          | 27.....   | 81       | 45       | 36     | W.     | .....          |          | 27.....  | 85       | 58       | 27     | SW.    | .50            | Rain.    |
| 28.....   | 76       | 46       | 30     | NW.    | .....          |          | 28.....   | 83       | 47       | 36     | W.     | .....          |          | 28.....  | 80       | 48       | 34     | NW.    | .....          |          |
| 29.....   | 73       | 34       | 39     | NW.    | .38            | Rain.    | 29.....   | 81       | 46       | 35     | N.     | .....          |          | 29.....  | 76       | 45       | 31     | SW.    | .15            | Rain.    |
| 30.....   | 70       | 42       | 28     | N.     | .15            | Rain.    | 30.....   | 72       | 45       | 27     | NW.    | .....          |          | 30.....  | 68       | 50       | 18     | SW.    | .45            | Rain.    |
| 31.....   | .....    | .....    | .....  | .....  | .....          |          | 31.....   | 76       | 39       | 37     | N.     | .....          |          | 31.....  | 68       | 43       | 25     | SW.    | .15            | Rain.    |
| Total   | .....    | 1,252    | .....  | .....  | 2.67           |          | Total   | 2,425    | 1,427    | 998    | .....  | 1.15           |          | Total  | 2,455    | 1,451    | 1,004  | .....  | 2.05           |          |
| Mean  | .....    | 41.70    | .....  | NW.    | .....          |          | Mean  | 78.23    | 46.03    | 32.20  | SW.    | .....          |          | Mean   | 79.19    | 46.81    | 32.39  | SW.    | .....          |          |
| Maximum, not known; minimum, 31° on 3d instant; mean, not known; total precipitation, 2.67 inches; prevailing winds, northwest. |          |          |        |        |                |          | Maximum, 87° on 11th and 25th instant; minimum, 32° on 2d instant; mean, 62.13°; total precipitation, 1.15 inches; prevailing winds, southwest. |          |          |        |        |                |          | Maximum, 89° on 12th instant; minimum, 37° on 6th instant; mean, 63°; total precipitation, 2.05 inches; prevailing winds, southwest. |          |          |        |        |                |          |



*Diary of Yellowstone Park scouts, winter season of 1897-98.*

[George Whittaker, 1897.]

*November 6.*—Left Mammoth Hot Springs for Norris; arrived at Norris 7.30 p. m. Saw 5 elk on Swan Lake Meadow, 2 coyotes at Willow Park. Weather cloudy and cold.

*November 7.*—Left Norris station at 9.30 a. m., and proceeded to Mud Geyser; arrived Mud Geyser 6 p. m. Saw 25 elk 1 mile west of Canyon Junction, large band near Sulphur Mountain, 172 on east side of Yellowstone River, opposite mouth of Alum Creek; 1 red fox and 3 coyotes at Tront Creek bridge. Weather very cold and snowing heavy.

*November 8.*—Left Mud Geyser station and crossed Yellowstone River in a boat. Went on foot for about 4 miles east, making about 8 miles in all. Saw 1 deer track, 2 red foxes. Weather storming and cold.

*November 9.*—Left Mud Geyser station with Sergeant Simons and Private Akers and proceeded to Pelican Creek cabin. Saw 1 elk. Weather, blinding snowstorm all day.

*November 10.*—Left cabin with Sergeant Simons, dismounted, for Pelican Cone and Mush Kettles on Pelican Creek; made a circuit of about 10 miles; almost impossible to travel with horses. Weather stormy. Saw 1 elk.

*November 11.*—Left cabin with Sergeant Simons, mounted, for head of Astringent Creek and White Lake. Left Private Akers at cabin until we returned. Proceeded about 4 miles on horses, then proceeded on foot to south end of White Lake; could not get there with horses on account of deep snow. Saw no sign of any kind all day. Snow between 2 and 3 feet deep on the head of Astringent Creek. Weather stormy.

*November 12.*—Left cabin for head of Raven Creek, mounted; proceeded as far as beaver dams, where snow was too deep to travel with horses. Saw some fresh beaver sign. Decided to go back to Mud Geyser station for grain and rations and return in three or four days. No sign of any other game. Weather, snowing and raining; snow going very fast.

*November 13.*—Left Mud Geyser station for Trout Creek cabin, with snowshoe rations for cabin; took Sergeant Simons and Private Akers to assist me in putting wood in cabin, and show them route to Thumb in winter time. Saw no sign of game in Hayden Valley, something very unusual at this time of the year. Weather cold and stormy.

*November 14.*—Left Trout Creek cabin for Fountain station; decided to take Sergeant Simons and Private Akers with me and return to Mud Geyser from Fountain and go back to Pelican as soon as I get through at this place. Had intended to go up to Bear Parks and Shoshone Geyser Basin and take Corporal Holman and one private with me, but corporal informed me that he had just returned from Bear Parks five days ago and saw no sign of any game in there, and had also tried to get to Shoshone Geyser Basin with horses, and the deep snow drove him back. There being nothing further to detain me here, I decided to return to Mud Geyser to-morrow and try the Pelican Creek again. Left Trout Creek cabin at 11.45 a. m. and got to foot of Mary's Mountain about 1 p. m. After we got to Snow cabin at foot of mountain I saw two very fresh tracks, should say half hour old; examined them closely and saw they were buffalo; about half mile farther came onto two more tracks, which proved to be buffalo also, but not so large as first two, and one more half mile east of Magpie Creek; thought best not to pursue them; presume they were somewhere back of Fountain Hotel all summer and are just moving into Hayden Valley. Some beaver sign in Nez Perce Creek. Weather very cold and stormy.

*November 15.*—The stock being very tired, and it being very cold and stormy, I decided to lay over to-day and return to Mud Geyser to-morrow; and by the time I got a telephone message in to post about buffalo it was 11 a. m. before I got back to station, almost too late to start for Mud Geyser. Requested Corporal Holman to ride up to Twin Buttes and see if there were any buffalo sign there. He returned and reported nothing but elk sign and some beaver sign in Sentinel Creek. Weather cold and stormy.

*November 16.*—Left station for Mud Geyser station with Sergeant Simons and Private Akers via Marys Mountain. Arrived at station 4.30 p. m. Saw 15 elk on Nez Perce Creek at foot of Mary's Mountain. Observed that Corporal Holman is very attentive to the duty assigned him to prevent poaching in the park. Weather cloudy and cold.

*November 17.*—Stayed at Mud Geyser station to start for Pelican Creek to-morrow; there being some work to do pertaining to my stock and saddles, was too late to make a start to-day. Weather clear and cold.

*November 18.*—Left Mud Geyser station with Sergeant Simons and Private Murphy for Pelican Creek cabin, intending to go up to Mirror Plateau and head of Flint Creek. Arrived at cabin at 4 p. m. Saw 14 swan on Yellowstone River above ford. Weather cloudy.

*November 19.*—Left cabin for Mirror Plateau, but found, after proceeding about 5 miles, the snow so deep and hard that could not go there, so tried to go up to summit of the mountain and go down Willow Creek, but could not get there, so had to turn back. Could do nothing with horses on account of snow. Saw two buffalo tracks on Astringent Creek; quite a number of elk sign on Pelican Creek. Weather cold and stormy.

*November 20.*—Left cabin for Mud Geyser station with intention of returning to post, it being useless to try to do anything with horses. Saw 27 swan on river above ford. Weather stormy and cold.

*November 21.*—Left Mud Geyser for Norris; arrived at Norris at 5.30 p. m. In my experience with the detachment at Mud Geyser I found that they were preventing any poaching being done in their district. A band of about 200 elk crossed the river above Alum Creek, just as I came by. Weather cloudy and cold.

*November 22.*—Left Norris station for Fort Yellowstone; stayed back with teamster to remove large rock out of road, but could not remove it; tried to pull it out, but could not. Fixed telephone wire at Crystal Spring. Saw a band of about 200 elk at Swan Lake; about 75 elk in the timber about 1 mile post from post; 15 deer at Golden Gate. Weather cloudy.

[James G. Morrison, 1897.]

*November 24.*—Left the post with Privates McReynolds and Miller to go over on the Gallatin. On account of the deep snow we got no farther than the pocket on Fawn Creek, where we camped. Saw about 750 elk; also numerous signs of beaver on the Gardiner River and Fawn Creek. Distance traveled, about 12 miles.

*November 25.*—Took back trail down Fawn Creek about 4 miles, thence south along Quadrant Mountain to Indian Creek and up it about 4 miles to snowshoe shack, where we camped. Saw about 150 elk; many signs of beaver on this creek. Distance traveled, about 15 miles.

*November 26.*—Remained in camp, scouting up Indian Creek. No signs of game. Distance traveled, about 10 miles.

*November 27.*—Proceeded to the post. Distance, 12 miles.

[George Whittaker, 1897.]

*November 23 to 25.*—Doing duty at Fort Yellowstone.

*November 26.*—Received order to go to Mud Geyser with pack mule and four pairs snowshoes.

*November 27.*—Left Fort Yellowstone for Norris; left post at 3 p. m., arrived Norris 7.30 p. m. Weather cold and storming. Saw 19 elk 6 miles south of post; also 2 deer and 3 coyotes  $6\frac{1}{2}$  miles south of post.

*November 28.*—Left Norris 10.30 a. m. for Mud Geyser; arrived Mud Geyser 4.30 p. m. Took Sergeant Welsh and Private Helm to assist me to Canyon Junction, but finding my horse and mule and Sergeant Simons's horse very tired, decided to have them go to Mud Geyser with me and return the following day via Canyon Hotel to see if it was possible to make a trip due north to Fort Yellowstone from Grebe Lake. Saw a band of elk on east side of Yellowstone River between Trout Creek and Mud Geyser; presume there were about 70 of them. Weather clear, until evening it began to snow.

*November 29.*—Left Mud Geyser on return trip to Norris with Sergeant Welsh and Private Helm. Went to Canyon Hotel to see how deep snow was, but found it too deep to go to Grebe Lake with horses. Went to hotel and sent Captain Erwin, the assistant superintendent of the park, the following message over telephone:

"Trip must be made on snowshoes. Leave Canyon; will be at Norris about 4 p. m. If any other orders call Norris.

"WHITTAKER, Scout."

Did not arrive at Norris until 5 p. m. Weather forenoon cloudy, afternoon snowing very hard. Hard for stock to travel and make time.

*November 30.*—Stayed at Norris to wait for wagon to come with snowshoes. During the day I took Sergeant Welsh and Private Hemstead with their skis and broke the trail as far as Virginia Meadows; made a circuit of about 7 miles; found it very hard snowshoeing; the snow was very soft and our skis would sink about 6 to 8 inches. Wagon arrived at 5 p. m. with skis for Norris station and myself and Scout Malin. Weather very stormy.

*December 1.*—Sergeant Welsh, Scout Malin, and myself left Norris on snowshoes for Canyon Hotel at 9.45 a. m., arrived at Canyon at 3.30 p. m.; found snowshoeing fairly good for time of year. Depth of snow from 18 to 30 inches between Norris and Canyon Hotel. One mountain lion track on Canyon road 1 mile east of Norris; one on sulphur beds 3 miles west of Canyon. Met lineman and Privates Murphy and Davis on their way to Norris to get some mail which was brought out on the



wagon yesterday; they return to Mud Geyser to-morrow. I sent my horses in from Norris by Private Hemstead. No game seen. Weather clear.

*December 2.*—Left Canyon Hotel with Sergeant Welsh and Scout Malin to make a trip to Grebe Lake, thence north to Fort Yellowstone, on snowshoes. Left Canyon Hotel at 8.35 a. m.; went up Cascade Creek to lake, thence to Grebe Lake; found all beaver had not been molested. Cut north from Grebe Lake and went to poachers' old cabin on the head waters of a tributary of Lava Creek. Saw no game. Snowshoeing was very easy to-day. Made about 10 miles from Canyon Hotel. Depth of snow, from 12 to 24 inches up to Grebe Lake; from there the snow was from 3 to 4 feet. Weather clear; 10 degrees below zero this morning at 6.30 o'clock.

*December 3.*—Left cabin with Sergeant Welsh and Malin at 7.30 a. m.; began to climb the divide and kept working along the top until we came to Storm Peak, then began to descend to Lupine Creek; when we reached the creek bed, we found it very hard shoeing on account of lack of snow. On the divide from the cabin all the way to Lupine Creek the snow was about 4 to 5 feet deep. No sign of anybody in that district. There seems to be a great many pine marten around Storm Peak and on the head waters of Lupine Creek; great many elk sign near Wraith Falls. I think we made about 25 miles on our trip for to-day. Weather clear and cold. Came in on foot from top of East Gardiner grade; arrived at post about 7.30 p. m. Saw 3 deer and 1 elk near Blacktail Creek; saw tepee near Storm Peak, but nothing in it. From the divide above cabin could see the Tower Creek country, but saw no sign of anything there.

[N. J. Malin, 1897.]

*October 8.*—Left Fort Yellowstone with Corporal Ornis and Private Canovan at 2.30 p. m.; arrived at Blacktail Creek at 5 p. m., about 8 miles east from fort. Saw 1 blacktail buck and 2 coyotes on the road.

*October 9.*—Went on; followed down Blacktail Creek near the mouth; beaver houses and dams had not been disturbed on the creek. I showed Ornis and Canovan the trail to cross the river at mouth of Blacktail; also lower and middle trail going to Cooke City. Camped at Yancey's about 5 p. m. No game seen. Weather very stormy; snow and wind.

*October 10.*—Left camp at Yancey's at 7.30. Crossed main Yellowstone on Barnett's bridge; then went up Lamar River about 1 mile and forded; then cut across divide to trail on north side of the river, leading to Cooke City, about  $2\frac{1}{2}$  miles from Slough Creek; then turned northwest to Buffalo Plateau and made camp near Montana-Wyoming line on a branch of Hell Roaring Creek, 4 p. m. Corporal Herb and Private Hardin came to our camp near 5 p. m.—trailed us from where we hit the trail, on north side of Yellowstone, which leads to Soda Butte and Cooke City.

*October 11.*—Left camp with Ornis, Herb, and Canovan at 8.30 and traveled east to the pass between Hell Roaring and Buffalo Fork of Slough Creek. Found snow about 18 inches deep and crusted hard, so it was hard for horses to travel; then traveled north to what is considered near the north line of the park. Saw 1 blacktail buck and 4 bull elk; also beaver dam and house and fresh work of the beaver in the creek, which was a small branch of Hell Roaring. Herb sent Harding back to station. Snowing and cold; windy.

*October 12.*—Traveled north with Ornis, Herb, and Canovan, to north line near Hell Roaring Creek. Saw 5 bull elk on trip. Got back to camp at 5 p. m. Found Harding in camp.

*October 13.*—Ornis, Herb, and Harding scouted up the main Hell Roaring Creek; reported when returning no sign of game or poachers. I went west on Buffalo Plateau; no sign of game or poachers. Snowing and rain.

*October 14.*—All left camp at 10.30 a. m. and traveled main trail to Soda Butte. Got to station at 5 p. m.

*October 15.*—Left station at 10 a. m. with Ornis, Herb, and Bremer. Arrived at upper end of Alastin meadows at 5.30 p. m., about 2 miles south of the line of the park. Richard Randall and Roseborough in the party; they had written permit to carry their guns and to pack meat through the park to Soda Butte, thence along the road to Gardiner. Saw near 1,000 elk on Warm Spring Creek; also a very large band on Specimen Mountain.

*October 16.*—I took Herb, Bremer, Ornis, and Canovan as near north boundary line as I could judge from the line of Montana and Wyoming. Randall and Roseborough went across the line hunting. Clear and fine.

*October 17.*—All scouted up Slough Creek to where the line crosses the mountains. Clear and fine.

*October 18.*—Canovan and myself went across the point of the mountain to Buffalo Fork of Slough Creek to near line of park. The other men went up Slough Creek outside the park, hunting. Ornis killed a blacktail deer. Clear and fine.

*October 19.*—Started back to Soda Butte Station and arrived at 3.30 p. m. Roseborough and Randall also went to the Butte. Warm; thawing, so the travel was muddy.

*October 20.*—All remained at the station. Raining all day. Blane and Hoppe captured negro supposed to be the negro who broke jail in Deadwood, Dak.

*October 21.*—All left station for Cache Creek; followed up the main creek to right-hand fork, thence up the right-hand fork to the canyon, then up the divide to near the line of the park. Camped at 5 p. m. Herb, Ornis, Canovan, and Edwards, Randall, and Roseborough started east, hunting. I went on top of the mountain, so I could see Saddle Mountain and Baronet Peak, to determine, as near as possible, where the line would cut the mountain and creek, and found that we were camped in the park about three-quarters of a mile, as near as I could tell. Herb and Edwards, while hunting, came across the corner of the timber reserve, and found the line of the park; also trees and monuments showing the line. The line is also blazed as far as followed north and south. No sign of game in the country.

*October 22.*—Started back to station; arrived at 3 p. m. Lots of elk on bottom between Lamar River and Soda Butte Creek. I saw several coyotes and some mountain-lion tracks. Warm and pleasant.

*October 23.*—Randall, Ornis, Canovan, and I left station at 10 a. m. and arrived at camp on Slough Creek at 4.50 p. m. Saw several thousand elk between Soda Butte and Slough Creek. Both sides of Lamar River alive with elk; as near as I could judge, must have been 7,000.

*October 24.*—All hunted north of line for camp meat, but nothing outside of the park lines but bulls. Found on my way to camp an old camp where poachers had been camped. Near the line they had left their camp outfit, cooking utensils, also three quarters of elk, hung up in the trees, about 500 yards from their camp.

*October 25.*—All scouted the country between the north line and Slough Creek to see if we could find any more signs of poachers, but found no camps made lately. The beaver in Slough Creek have not been disturbed.

*October 26.*—Left camp on Slough Creek and followed it down through the canyon to or near the mouth. Crossed the Lamar River and went to Yancey's place and camped for the night. Several hundred elk at mouth of Slough Creek; also, several hundred on Specimen Mountain and Little Specimen Creek. Ornis killed 1 coyote, and we saw lots of signs and several coyotes.

*October 27.*—Left camp at 8.30 and arrived at Fort Yellowstone at 2.30. Saw no game, but a large herd had come off of Mount Washburn and crossed the road, going towards the Yellowstone River, near Devils Gut.

*November 30.*—Left post for Norris Station at 11 a. m. with Sergeant Bernstein, mounted, and Donehue as teamster. Saw a band of near 200 elk on Swan Lake Flat; 2 coyotes on road near Crystal Springs; 24 geese on lake at 3-mile post from Norris. Met syndicate team, with driver and Andy Wold, on road to Springs. Arrived at Norris Station at 4.30 p. m. Ten to 12 inches of snow beyond Crystal Springs to Norris.

*December 1.*—Left Norris, with Whittaker and Sergeant Welsh, for Canyon on snowshoes at 9.45; arrived at the Canyon Hotel at 3.30. Snow would average about 20 inches deep.

*December 2.*—Left Canyon Hotel with Whittaker and Sergeant Welsh. Traveled up Cascade Creek to the lake, thence across to Grebe Lake; then took up the trail that Reeb and Smitzer took after the robbery, to the cabin built by poachers. Cascade Creek and Lake frozen and covered with snow, so could tell nothing regarding the beaver in the creek and lake. No sign of game or poachers; snow average about  $3\frac{1}{2}$  feet deep.

*December 3.*—All left cabin at about 7.30 a. m.; traveled to top of divide looking into Tower Creek, then followed along the head of the divide to the head of Lupine Creek, then down the creek to the open country, then across to the main road leading from Springs to Cooke City; arrived at Fort Yellowstone at 8 p. m.; snow 4 to 5 feet deep in mountains, very little in the open country.

*December 5.*—Made trip along north line back of Cinnabar, then followed around the foot of mountains to target ground, then down old road to Gardiner. Game seen on trip, about 250 antelope in foothills, 3 blacktail deer near old brickyard, 8 bull elk above target ground, 2 live and 8 dead coyotes.

[George Whittaker, 1897.]

*December 4.*—Reported to the commanding officer for duty.

*December 5 and 6.*—Doing post duty.

*December 7.*—Left Mammoth Hot Springs for Yancey's with saddle horse and 2 pack mules. Saw 2 mountain sheep on east end of Mount Everts; 4 elk on Black-tail, 82 one mile west of Yancey's, and 2 deer same place. Weather stormy.

*December 8.*—Left Yancey's and proceeded to Soda Butte Station. Saw large herd of elk near hot spring, 2 miles southeast of Yancey's—about 75 in the herd; 3 small herds about 1 mile north of the junction of Yellowstone and Lamar rivers, 27 in one herd, 64 in next one, and I will venture to say there were over 300 in the other herd.



Twelve bull elk near the Junction Butte; 59 on the southeast side of Junction Butte; 33 near Cedar Ford of Lamar River; large herd near the mouth of Slough Creek—can say there were between 200 and 300; large herd on the east side of Slough Creek—between 50 and 75; 4 deer on Little Specimen Creek; 11 elk on Specimen divide; large herd on west side of Druid Peak of about 100; some scattered all the way from Amethyst Creek to Soda Butte. Corporal Herb and 2 privates absent on patrol duty on Slough Creek. Weather stormy. Snowed about 5 inches of snow during the night. Saw 7 coyotes near carcass of dead elk, 1 mile from station.

*December 9.*—Left station on snowshoes for trip up Opal Creek, then over to head of Flint Creek, but broke one of my snowshoes at foot of Specimen Ridge, so had to return to station. Was too late to make the trip by the time I had secured new shoes, so had to abandon it. Corporal Herb promised to make the trip by next Tuesday. Saw 14 elk opposite station. Weather cloudy.

*December 10.*—Left Soda Butte with Corporal Herb and Scout Malin for Hellroaring Creek. Saw about 700 elk near Junction Meadow; 200 on Slough Creek; about 1,000 scattered around between the outlet of Lamar River and Hellroaring Creek; also between 400 and 500 on east side of Hellroaring; some on west side also, but could not see them very well; should say there were about 150 of them. Camped on the State line near Hellroaring Creek. Saw 1 dead elk on Slough Creek and 6 coyotes eating on his carcass. The elk had evidently been run down and killed by the 6 coyotes last night. It was a last spring calf and was in good condition. Weather fair. No sign of anyone in the country we came over.

*December 11.*—Left camp with Corporal Herb and Scout Malin. Game seen to-day was 6 large herds of elk—2 herds on east side of Hellroaring creek, 3 herds on west side, and 1 herd on Blacktail Creek. It would be almost impossible to count them, but I will say there were at least 3,000 between Hellroaring and the mouth of Cottonwood Creek and 300 on Blacktail. Saw 3 white-tail deer near east side of Cottonwood Basin, 12 on Gardiner Grade, 1 mountain sheep near Cottonwood. No sign of anybody in the district.

Corporal Herb and his detachment keep a very close watch of that country. Corporal Herb came as far as Blacktail bridge, then left me and went to Yancey's. Malin left me at ford on Yellowstone River. Weather stormy. There were a great many fresh signs of beaver in Blacktail creek about 1 mile from outlet. Arrived at Fort Yellowstone at 4.45.

*December 12.*—Doing duty at Fort Yellowstone.

*December 13.*—Left post, mounted, with Private Dawson, of D Troop, and Private Martin, of H Troop, and 3 pack mules, for Fawn Pass. Proceeded as far as Golden Gate, where we were compelled to return to post on account of deep snowdrift in the gate, which was about 15 feet deep on the upper side and tapered down to 7 feet on lower side. Saw 10 deer at 3-mile post south of post. Weather very stormy.

*December 19.*—Left Fort Yellowstone with Scout Morrison and 4-mule team and driver at 8.10 a. m. for Norris. Had 4-mule team and 8 men to assist our team through the Snow Pass. After getting on the main road at Swan Lake found it fairly good traveling to Indian Creek; began to get very hard from there on; could not get farther than Crystal Spring on account of mules being tired; had to camp there for the night. Saw small herd of elk near the Snow Pass. Weather clear and cold.

*December 20.*—Left Crystal Spring cabin for the Canyon Hotel at about 8 a. m.; arrived at Norris for dinner. Left Norris at 2 p. m.; arrived at Canyon Hotel at 7.30 p. m. No game on road. Weather clear and cold.

*December 21.*—Left Canyon Hotel at 6.45 a. m., intending to go to Mud Geyser Station and secure the body of Private Davis, who was found frozen to death 10 miles from Lake Hotel on road to Thumb, and brought to Mud Geyser Station by Sergeants Simons and Welch and Private Akers. Found that Sergeants Simons and Welch had tied the body up with canvas and had everything ready to start back to the Canyon Hotel after dinner. Left Mud Geyser at 1 p. m. with Scout Morrison, Sergeants Simons and Welch and Private Hemstead to return to Canyon Hotel with body of Private Davis. Arrived at Canyon Hotel at 5 p. m. No game seen on road. Weather stormy in forenoon and clear in afternoon. Fairly good traveling for the team.

*December 22.*—Left Canyon Hotel at 7.25 a. m. for Crystal Spring; arrived at Norris for noon hour; left Norris 1.45 p. m.; arrived Crystal Spring at 5 p. m. Weather clear and cold.

*December 23.*—Left Crystal Spring with same party for Mammoth Hot Springs; left cabin at 7.04 a. m.; arrived Mammoth Hot Springs 11.55 a. m. Saw 17 elk near Snow Pass. Weather clear and cold. Depth of snow from Norris to Indian Creek about 2 feet; from Norris to Canyon 3 to 4 feet; from Canyon to Mud Geyser from 12 to 30 inches; all the snow is very soft.

*December 24.*—Left Fort Yellowstone to make a trip to Gardiner, Horr, and Aldridge; arrived at Gardiner; decided to remain over night. Weather cloudy.

*December 25.*—Left Gardiner City at 8.45 a. m., and proceeded to Horr. Stopped

two hours in Horr, then proceeded to Aldridge; arrived there 12.30 p. m. Weather cloudy.

*December 26.*—Left Aldridge and returned to Gardiner. Remained in Gardiner over night. Weather stormy.

*December 27.*—Left Gardiner; from Gardiner went up on Mount Everts; saw a great many elk and antelope up there; saw 6 mountain sheep also; weather cold and stormy; from Mount Everts returned to Fort Yellowstone; arrived at post at 5.30 p. m. On this entire trip I have gathered some information that sooner or later will lead to the arrest of some poachers.

*December 31.*—Left Fort Yellowstone, mounted, with privates Disbrow and Root, of H Troop. Proceeded as far as Snow Pass, mounted; then proceeded on skis up Glen Creek; then over the divide to head of Gardiner River, at foot of Electric Peak, and camped for the night. Saw 12 elk near head of Glen Creek. Weather clear and cold.

[Geo. Whitaker, 1898.]

*January 1.*—Left camp with same party for Mulharen Creek and Fish Lake. Camped on Fish Lake over night. Saw one fresh track of mountain sheep. Weather clear.

*January 2.*—Left Fish Lake at daybreak. Proceeded down Mulharen Creek one mile; then kept working along the park line, intending to go to head of Reese Creek, but Private Root broke one of his snowshoes when we were just opposite Aldridge, so I had to go to the nearest road, as we could not use our skis any more. Saw one old snow trail, which I presume was one week old or more. Came on to an old cabin, but it was empty and there had been nobody near it this winter. The cabin is in the park, but very near the line. Saw no game. Weather clear. We arrived at Mammoth Hot Springs at 2 a. m. on the morning of the 3d.

*January 12.*—Sergeant Wall, of H Troop, and Corporal Herb, of Soda Butte Station, and myself left Fort Yellowstone for main camp on Big Blacktail Creek. From post we went to first bridge on Gardiner River, then turned to the right and went up the old road to old coal mine. At the coal mine we saw 22 mountain sheep—7 rams and 15 ewes. I then sent Corporal Herb on top of Mount Everts, while Sergeant Wall and I patrolled along the cliffs at Eagles Nest; then went down as far as the Yellowstone River; then up the old Turkey Pen road to Blacktail. Saw 1 mountain sheep near old slaughterhouse on Turkey Pen road; about 20 antelope on Gardiner flat. Saw about 1,200 elk on Mount Everts; saw 21 deer scattered on Mount Everts. Corporal Ornes and Private Premier left post with pack train with rations and forage for main camp. Found everything O. K. in camp. Weather clear and very cold. Saw one human foot track on Everts, but it was about four days old and was not very plain.

*January 13.*—Took Sergeant Wall and Corporal Ornes, mounted, and proceeded up Crevasse Creek to patrol that place and also measure the distance from park line to where Miner killed the elk; and found it was 235 yards due south of the line, as near as we could make it. Brought the head to camp to be sent to post as evidence against Mr. Miner. Saw 88 elk on east side of Crevasse Creek; 24 on head of Dry Gulch creek. Weather cloudy.

*January 14.*—Left camp with Sergeant Wall and Corporal Herb and 3 pack mules to go over to Buffalo Creek and remain there three days, if necessary. Sent Corporal Ornes into the post with 2 mules and letter to Captain Erwin, and elk meat and elk head of Mr. Miner's. Saw 48 elk on Dry Gulch Creek; 4 white-tail deer same place. Elk sign were very numerous on Crevasse Mountain. Weather clear. Went into camp on Buffalo Creek at 4 p. m. The snow is very deep on Crevasse Mountain.

*January 15.*—Stayed in camp until about 11 a. m., then took Sergeant Wall and rode out toward the park line. Just before we came to the line we found an elk, dressed and covered with a blanket, and there was a fresh track of a man leading into the park, but before we got there he had come out again and gone down towards Bear Gulch, but later on I saw him coming back. I had already found his camp and a man in it who said his partner was out hunting horses, so I sent Corporal Herb down to watch his partner, when he came in, and see what he had with him. At that time I saw a man moving along the cliffs near the Yellowstone River, so I watched him until I thought he was in the park, then went after him and arrested him for hunting in the park. It turned out to be Scotty Crawford, or "Horse-thief Scotty." Brought him into the post and Captain Erwin ordered him confined until we could find out for certain whether he was in the park or not. Weather cloudy and cold.

*January 16.*—Left post with Lieutenant Arnold and proceeded to Buffalo Creek, to determine whether Scotty Crawford was in the park when we arrested him. Found the stakes and monuments and found that he (Scotty) was all of 50 yards out, but found where he had been all of 400 yards inside, but when arrested he was about 100



yards outside the line. Returned to Fort Yellowstone at 7.30 p. m. Weather clear and cold.

*January 17.*—Stayed at Fort Yellowstone to meet Sheriff Young from Livingston. He arrived on the mail stage and said he would take charge of Scotty in Gardiner, to-morrow. Told him I would meet him at 10 a. m. Weather cloudy, not very cold.

*January 18.*—By order of Captain Erwin, took prisoner Crawford to Gardiner and turned him over to Sheriff Young, who told me to have all the witnesses to appear in Horr at 2 o'clock p. m. I sent Private Root up to camp and told him to have Sergeant Wall and Corporal Herb come down at once and move the camp down also. They arrived at 2 p. m. in Gardiner; then I took them to Horr. Scotty was tried and found "not guilty." Then his partner had Sergeant Wall arrested for taking his gun away from him, but Sergeant Wall was discharged. Justice Erret said he could not make a case of it. Returned to post at 8.45 p. m. Weather clear and very cold. Saw 8 mountain sheep at Eagles Nest.

*January 19.*—Stayed at post to wait for Private Carter to come in from camp on Blacktail Creek; he arrived at 8.45 p. m.

*January 20.*—Left post, mounted, and rode over to Mount Everts. Saw 8 mountain sheep on Mount Everts; about 600 elk there also; 6 deer same place. Saw where somebody had built a small footbridge across the Gardiner River, near the mouth. Returned to post at 5 p. m. Weather clear and cold.

*January 21.*—Left post with Private Weston, of H Troop, mounted. Proceeded from the bridge 2 miles north of post to the old coal bank on Mount Everts; from there to mouth of Gardiner River, thence along the north line of park as far as the Gassert ranche, thence back to Fort Yellowstone. Saw 11 mountain sheep on Mount Everts; about 200 antelope on Gardiner flat on east side of the Gardiner River; 4 whitetail deer near Government garden; 7 near post ice house; about 75 elk back of the Gassert ranche. Arrived at post about 5.30 p. m. Weather clear and cold.

*January 22.*—Remained in post until 6 p. m., then packed up 5 mules and left post with Sergeant Wall, Private Weston, and Private Martin to make a night camp on Mount Everts. Made camp on McMahon Creek at 8.10 p. m. Returned to post with Private Martin at 9.20 p. m. Left Sergeant Wall and Private Weston of H Troop in camp for six days, by order of Captain Erwin. Weather stormy and cold.

*January 23.*—Left post, mounted, with Private Carter and Private Martin, of H Troop, and Private Squires, of D Troop, and 5 pack mules to make a camp just back of Cinnabar. Left post at 10 a. m.; arrived in camp at 1 p. m. Sent Private Martin back to post with 3 mules. Saw about 150 antelope on Gardiner Flat; 6 elk back of Gassert ranche. Weather, clear and cold.

*January 24.*—Left camp with Private Carter to make a patrol up Reese Creek. Left camp at 8.30 a. m.; returned at 4.30 p. m. After going up Reese Creek to within one-half mile of park line saw some smoke away up in a little draw or ravine and concluded it was a poachers camp. I went about one-fourth mile inside the park; saw lots of game sign. Tried to ride to foot of Electric Creek, but snow was too deep for our horses; so returned to camp to go up and get Sergeant Wall and Private Weston to come down and help me investigate what that camp is doing there. Weather very cold all day, and clear.

*January 25.*—Left camp with Private Squires and went up to Sergeant Wall's camp to get him to come down and assist me for one day to investigate camp fire seen yesterday on Reese Creek. When I got to Gardiner I was informed that the sergeant had gone over to Buffalo Creek; so decided to send Private Squires back to camp and I would wait in Gardiner for the return of Sergeant Wall. Saw about 50 antelope on Gardiner Flat. Sergeant Wall arrived from Buffalo Creek at 6.30 p. m. Weather clear and very cold; 18 below zero at Gardiner. Remained with Sergeant Wall over night.

*January 26.*—Left Sergeant Wall's camp with Sergeant Wall and Private Weston. Proceeded to within 1 mile of Cinnabar, then fired two shots as a signal for Private Carter to meet us in Cinnabar. Left Cinnabar at 11 a. m. and went up Reese Creek as far as the park line, thence along said line to the foot of Electric Peak, thence back to where I saw the smoke on the 21st. Found that where we saw the smoke there is an old man, who built a log cabin last fall. He is mining coal. His cabin is about 150 yards from park line. Saw where two elk or deer had been killed and dragged down Reese Creek to Horr, but they were killed outside the park. Also found an old bear trap just outside the park; it has been there for about one year. There seems to be a great many fresh elk sign on Reese Creek and all of them are inside the park. Sergeant Wall and Private Weston returned to their own camp this p. m. Weather cloudy and cold.

*January 27.*—Sent Private Carter up to help Sergeant Wall take out the footbridge across the Gardiner River. Left camp about 2 p. m. and rode up to foot of Sepulchre Mountain to see if any poaching had been done there, but saw no sign of any having been done there. Saw 32 elk at foot of Sepulchre Mountain. Private Carter returned at 5.30 p. m. from Sergeant Wall's camp. He informed me that the foot-

bridge was taken out by Sergeant Wall and himself. He saw about 100 antelope on Gardiner Flat. Weather cloudy and very windy.

*January 28.*—Left camp with Private Squires to make a patrol up Reese Creek. As this is the day I am told to go to the post, thought that I had better make this patrol before going. Saw where an elk had been killed yesterday—but outside the Park—and dragged to Horr. Returned to camp about 5.30 p. m. and started to pack up and go to Sergeant Wall's camp and take him in also, but when we got there he had just returned from Buffalo Creek to look after Scotty's camp, and it being late and his stock tired, decided to remain there until morning and pull into the post by daybreak. My idea for doing this at night is to keep the hunting class of people thinking the camps were still out where they were. Weather clear and warm.

*January 29.*—Left camp on McMahon Creek with Sergeant Wall and Private Carter and Private Weston, of H Troop, and Private Squires, of D Troop, at 6.30 a. m. for Fort Yellowstone. Saw about 100 antelope on west slope of Mount Everts; 2 elk and 11 mountain sheep same place. Arrived at post at 8 a. m. Weather clear and very cold. Reported for duty at 9.30 a. m.

[Sergt. M. J. Wall, Troop H, Fourth Cavalry.]

*January 23.*—Left camp at 10 a. m. Made a patrol on Mount Everts on the south-east slope, with Sergeant Wall and Private Weston. Game seen during patrol, about 100 head of elk and 6 blacktail deer. On the east of Mount Everts discovered an elk killed by a mountain lion, lying south from my camp. Saw tracks about one day old of man and horses passed by my camp and going towards Gardiner. Distance traveled, about 20 miles. Weather very cold.

*January 24.*—Left camp at 8.30 a. m. Patrolled Turkey Pen Trail with Private Weston. Game seen, 200 head of antelope on Gardiner Flat and 100 head of elk near my camp on the mountain east of Turkey Pen Trail. Saw 3 mountain sheep, and on south of trail saw 200 head of elk. On my return saw man's tracks leading from Gardiner to the ridge south of Yellowstone River; lost his trail in the rocks, and saw one mountain sheep, a ram, which looked to me as if he was hunted. Waited for signs of something to turn up and could find nothing, so returned to camp. Distance traveled, about 25 miles. Weather cold and clear.

*January 25.*—Left camp at 8.30 a. m. Made a patrol to Buffalo Creek with Private Weston. Game seen during patrol, 100 head of antelope on Gardiner Flat, east of Gardiner River. Found Crawford's camp on Buffalo Creek; went to his camp; spoke to him about the meat that was lying on trail; he said he knew nothing about it. Left his camp and went to the line. Found fresh tracks leading into the park; tracks that were made by a man's foot. Returned to McMahon Creek. Distance traveled, about 25 miles. Weather very cold.

*January 26.*—Left camp at 9 a. m. Made a patrol of the northern boundary with Scout Whittaker, Private Weston, and Private Carter. Game seen during patrol, about 150 head of antelope on Gardiner Flat and 15 head of elk outside of the line, northwest of Electric Peak. Found the camp that Scout Whittaker thought to be Bucher's was an old prospector's cabin. Was told by a rancher named McMahon that there was deer taken out on Monday (24th) by coal miners. Returned to McMahon Creek. Weather cloudy and cold. Distance traveled, about 20 miles.

*January 28.*—Left camp at 10 a. m. A patrol made to Gardiner River. Game on Gardiner Flat, 200 head of antelope. Met Private Carter on the side of river; had him help, myself, and Private Weston to cut the footbridge across the Gardiner River. After the bridge was cut went on Turkey Pen Trail. Saw 200 head of elk on east of trail. Returned to camp. Weather windy and cold. Distance traveled, about 15 miles.

*January 28.*—Left camp at 9.30 a. m. Patrol east of Mount Everts with Private Weston. Game seen on and around Mount Everts, about 600 head of elk and 6 black-tail deer on McMahon Creek, 1 mountain lion on the east side of Mount Everts hunting elk, but when he saw us coming towards him he made for cover. After making this patrol went to Crawford's camp. Found fresh trails leading to the park; too late to follow them, so returned to camp. Weather clear and cold. Distance traveled, about 28 miles.

*January 29.*—Left camp at 6.30 a. m. Game seen on return to post, 100 head of antelope and 10 mountain sheep on south of Everts. Built a cabin on McMahon Creek.

[George Whittaker, 1898.]

*January 1.*—Left the post, mounted, and took in all the country at the foot of Sepulchre Mountain down as far as the corner of Chadbourne's ranche; then came back by way of Gardiner City. Saw 4 elk near the target range, about 110 antelope near Gardiner, 5 white-tail deer in Government garden, 12 near Government ice house. Weather clear and very warm.



*January 5.*—Left Fort Yellowstone with Corporal Ornes, of D Troop, and Private Carter, of H Troop, mounted; took five pack mules and proceeded to mouth of Blacktail Creek and went into camp there, so I could scout all the Crevasse Mountain country. Saw one man on snowshoes; sent Corporal Ornes after him; found out he was coming from Cooke City on his way to Gardiner. He had a pistol, but was sealed at Soda Butte. Saw a great many elk on Blacktail Deer Creek. The beaver in this creek have done a great deal of work, but are not working now. They have not been molested so far this winter. Weather cloudy and very wintry, but not cold.

*January 6.*—Left camp with Corporal Ornes and left Private Carter in camp; decided to go down the river to J. S. Knowles's ranch and see what was going on there, then go up on Crevasse Mountain and see if there is any poaching going on there; got to J. S. Knowles's cabin; found there was nobody at home; looked around for any elk meat that might be stored there, but found none. We then proceeded up Crevasse Creek; there we found two human footprints in the snow; followed them around to park line. The country was all pawed up by elk; there must have been hundreds of them in there last week, but they have been shot at and they have all moved back into Cottonwood Basin, except 11 that we saw to-day, and they ran for that place as soon as they saw us coming. After going to park line we began to circle a radius of 500 yards to see what those two men had been doing. I found where a quarter of elk had been cached overnight; I suppose it had been dragged there from the cache to Tom Miner's cabin. I followed the trail where it had been dragged, and it led to Tom Miner's door; am going back on the 8th to see just where it was killed; looked to-day as far as the park line, but could not find the carcass. Tom Miner told me, when I asked him who had dragged the meat, that he had, and that he was going to drag some more just as soon as he could get to kill one. My opinion is that he did not kill the elk, but somebody has killed several elk somewhere on Crevasse Creek and gave him the front quarters, for when I got to his cabin he was out and I looked into his meat house, but saw nothing but fore quarters and one old hind quarter of elk or deer; I did not take time to note which. Saw 3 whitetail deer near J. S. Knowles's cabin. Knowles was at home on my return, and so was Miner. Weather, very stormy.

*January 7.*—Left camp and rode to south end of Cottonwood Basin to meet Corporal Herb, but he failed to come, so returned to camp. Saw 3 whitetail deer and 97 elk to-day along the Yellowstone River. Weather, clear.

*January 8.*—Left camp with Corporal Ornes, proceeded to Tom Miner's cabin. Requested Miner to go with us and show us where he had killed his elk. At first he refused to do so, but after talking to him a little while he concluded to go. Found that he had first shot the elk outside the park about 500 yards, but the elk ran into the park about 400 yards before he killed it, so he killed the elk inside the park, but wounded it outside, for which I feel that I am in duty bound to arrest him for the offense. Saw a great many herds of elk on Crevasse Mountain near the park line, but they were all inside the park. Two whitetail deer above Miner's cabin. After we got through at Miner's we proceeded to Buffalo Creek, arrived there at sundown. Weather very cold and cloudy. Sent Private Carter into the post with 3 pack mules and note to Captain Erwin.

*January 9.*—Left camp on Buffalo Creek on foot; went out about half a mile, but it was snowing so hard that we could see nothing whatever, so decided to return to camp and listen for any shooting that might take place, but did not hear any near the park line, except below Gardiner we could hear six shots fired just at dusk and one in the forenoon. Heard two shots fired on Mount Everts about 5.30 p. m. Have seen no sign of anyone having been in the park poaching, except Tom Miner on Crevasse Creek. Saw no game to-day. Weather, stormy; snowing hard all day.

*January 10.*—Left camp on Buffalo Creek to return to camp on Big Blacktail Creek. Saw no sign of anyone poaching in the park. Got back to Tom Miner's cabin and found him dressing up to leave. I told I would have to arrest him for killing elk in the park. Took him to our camp on Big Blacktail and kept him overnight. Saw a great many elk on Crevasse Mountain, but outside the park. Weather, clear.

*January 11.*—Left camp on Blacktail for Fort Yellowstone with Corporals Herb and Ornes and prisoner Miner. (Corporal Herb met me on Crevasse Creek on the 10th instant.) Left Mr. Miner's arms and meat in camp, pending action of the commanding officer at the post. Saw 117 elk near mouth of Blacktail and 40 between Blacktail and top of Gardiner grade; 9 blacktail deer on Gardiner grade, 14 at forks of East and West Gardiner rivers; 9 mountain sheep on Mount Everts, opposite same place; 5 deer east corner of pasture. Arrived at the post with prisoner at 1 p. m. Weather, cloudy and very cold.

*January 30.*—Left post with Sergeant Wall, Private Weston, Private Martin, and 5 pack mules, to put Sergeant Wall in camp on McMahon Creek, on Mount Everts, by order of Captain Erwin. Returned to post with Private Martin and pack mules. Weather, clear.

*January 31.*—Received orders from Captain Erwin to take 2 privates and 3 pack mules to make a six days' trip to the Soda Butte district and Crevasse Mountain, then return to the post. Weather, clear.

*February 1.*—Left post with Private Martin, Private Rompre, of H Troop, Private Slough of D Troop, and 4 pack mules, for Hellroaring Creek. Only got as far as outlet of Big Blacktail Creek, on account of the ice in the Yellowstone River, which was frozen out so far from shore that we had to cut a channel through. Camped in old camp at ford of river. Saw two mountain sheep on east point of Mount Everts; got within 30 feet of large ram near the Cooke City road. Saw about 1,000 elk scattered along the road from top of Gardiner grade to mouth of Blacktail Creek. The beaver in Blacktail have not been working lately, nor have they been molested. Clear.

*February 2.*—Left camp with Privates Rompre and Slough to go up to Soda Butte Station, via Hellroaring and Slough Creeks. Sent Private Martin back to post with 1 mule. Saw about 3,000 elk between Cottonwood Creek and Soda Butte; 3 white-tail deer, 1 blacktail deer; 1 mountain sheep near Cottonwood Creek. Found 3 men absent on patrol duty when I arrived at station, but they returned at 8.15 p. m. Weather, clear.

*February 3.*—Left station with same party and returned to camp at Blacktail Ford with rations for the brush cabin on Line Creek. On Hellroaring Creek found everything O. K. at the station. Saw about 1,000 elk on Hellroaring, about 700 of them in one herd. Saw 9 mountain sheep near Cottonwood Creek; 3 whitetail deer near the ford of Yellowstone River. Weather, blinding snowstorms for about four hours and very cloudy all day. Average depth of snow 15 inches from Hellroaring to Soda Butte Station.

*February 4.*—Stayed in camp at Blacktail Ford of the Yellowstone River to fix up brush cabin and listen for any shooting on Crevasse Mountain. Our stock was very tired from our trip to Soda Butte and back here, which is about 28 miles each way. The ice in the river has about all gone out in the last two days. Weather, cloudy in a. m., clear in p. m.

*February 5.*—Left camp with same party and proceeded to J. S. Knowles's cabin, thence over Crevasse Mountain to Buffalo Creek, to look after Scotty's camp and see what he is doing there. We arrived on Buffalo Creek Mountain about 1.30 p. m. Went into camp inside the park line. Laid low all the afternoon to listen for any shooting that might take place, but did not hear any. Saw an old web snowshoe trail leading into the park from Scotty's camp, but it was three or four days old. Saw where one elk had been shot inside the park, but could not see where it had been butchered. Saw 3 whitetail deer at Knowles Lake, 4 at Knowles Cabin; 42 elk on Crevasse Mountain about 100 yards outside the park. Weather, cloudy and chinook wind blowing.

*February 6.*—Left camp with same party; went out on the cliffs and watched for anyone coming out or going into the park. Stayed there until about 1 p. m., then went over to my old camp on Buffalo Creek. Found that Scotty had camped there since his arrest, but he has moved away in the last three or four days. I have since been informed that he has moved down the river about 4 miles below Gardiner. After finding he had moved I came over to Sergeant Wall's camp on McMahon Creek; found Sergeant Wall and Private Weston absent on patrol duty. There has not been much of anything going on since January 15. Weather, cloudy and chinook wind. Saw no game.

*February 7.*—Left camp with Sergeant Wall and made a patrol down to Reese Creek. There has been some elk killed, but outside the park. Privates Weston and Rompre made a patrol over Mount Everts. Private Slough remained in camp. They saw 8 elk and 30 antelope on Mount Everts. We left camp at 6 p. m. for the post; arrived at post at 7.30 p. m. Weather, cloudy and warm wind.

[Sergeant M. J. Wall, 1898.]

*January 30.*—Left the post at 6.15 p. m.; made camp on McMahon Creek at 8.20 p. m. Night mild.

*January 31.*—Left camp at 10.20 a. m. Made a patrol on Gardiner Flat. Found Tom Newcomb on Gardiner Flat and told him the commanding officer wanted to see him. Returned to camp and made a patrol on the east side of Mount Everts. Game seen: 100 antelope on the east side of Mount Everts, 6 mountain sheep, same side, and 20 elk on the west side of McMahon Creek. Weather, warm. Traveled about 10 miles.

*February 1.*—Left camp at 10 a. m. Made a patrol on Turkey Pen Trail and on the east side of Mount Everts. Game seen, 150 antelope on Gardiner Flat, and 200 head of elk counted on northeast side of McMahon Creek, and 1 mountain sheep (a ram) on the mountain northeast of the Turkey Pen Trail, and about 400 elk on the south slope of Mount Everts. Discovered one blacktail deer, killed by a mountain



lion, on the east side of Mount Everts about 100 yards from where he killed the elk. I saw his tracks in a great many places, and believe he is about as big as an African lioness. I saw 5 bull elk south of McMahon Creek. They were all very large. I saw Tom Newcomb on Gardiner Flat, and he gave me a bottle of strychnine to put on the meat, which I did. No signs of anyone having been on Mount Everts since last patrol. Weather, fine and mild. Traveled about 20 miles.

*February 2.*—Left camp at 8.30 a. m. Made a patrol on Buffalo Creek and Buffalo Mountain with Private Weston. Found Crawford's camp to be abandoned. Looked all around Buffalo Creek and Buffalo Mountain, but he was not to be found in that location; he must have left camp on the 31st of January, in the night. I saw his camp on that day from Mount Everts. There was a man walking on Buffalo Mountain. Saw fresh man and horse's tracks leading from Crawford's camp to Mr. Moore's cabin; I believe them to be the tracks of Crawford. There is a cabin on the northeast of Buffalo Mountain, where there was someone, but seeing me coming they left. I had heard a shot fired long before I got there. When I reached the place I saw about 100 head of elk all around Buffalo Mountain, looking as if they were hunted very much. Followed trails all around and could find no signs of any game having been killed, so returned to camp. Game seen during patrol: 200 antelope on Gardiner Flat and on the east slope of Mount Everts; about 200 elk on east and west of Buffalo Mountain. Weather, normal. Traveled about 25 miles.

*February 3.*—Left camp at 9.30 a. m. Made a patrol on the north boundary line and to Reese Creek and to a prospector's cabin; no signs of anyone having been there of late. I had Private Weston patrol the east of Mount Everts and look at the deer that was poisoned. He found two foxes, which were poisoned, and were destroyed by crows picking holes in their heads; he also saw 30 bull elk on the south slope of Mount Everts and 400 cow elk on the east slope of Mount Everts, and 4 mountain sheep on the ridge of Everts. Game seen during the day: 100 head of antelope on Gardiner Flat and 50 head of elk on the west side of McMahon Creek, and 6 mountain sheep on the east of Mount Everts. Weather, blowing northwest and light snow. Traveled about 20 miles.

*February 4.*—Left at 9 a. m. Made a patrol on Crevasse Mountain to meet Scout Whittaker, which I failed to do on account of snowdrifts. My patrol would be to Mr. Knowles's cabin to leave a note for the scout. Also my horse was very lame and could not make it to Mr. Knowles's cabin and then to my camp, so I returned to camp. On my return I saw the poachers' cabin on Buffalo Mountain. I went over to it. There was a fire burning inside, but no one at home. I looked all around and saw some mink skins and what I thought to be fox skins. Waited to see if anyone would show up; then it was getting dark, so I returned to camp. Game seen, 200 antelope on Gardiner Flat. Private Weston made a patrol on Turkey Pen Trail, and also went to the top of the mountain northeast of Turkey Pen Trail. He saw 11 mountain sheep on the mountain. Two of them he said were rams, which he said were last spring lambs, and the remainder of them very small. He also stated that he believes all the big rams are killed off. Private Weston saw 200 elk west of Turkey Pen Trail and 100 antelope on Gardiner Flat. I believe there is more poaching done around here than any other part of the park, outside of Snake River and Riverside. There is a variety of game in this part—1,000 elk, 300 antelope, 200 blacktail deer, about 40 mountain sheep, and plenty of foxes, beaver, and mink. Weather, fair. Traveled about 30 miles.

*February 5.*—Private Weston left camp at 9.30 a. m.; made a patrol on the north boundary line and to Reese Creek. Said he saw no signs of anyone having been there since last patrolled. Game seen during his patrol, about 200 antelope on Gardiner Flat, 1 that was crippled on the west side of Gardiner River, 20 head of elk on Reese Creek, and 15 blacktail deer on Reese Creek. He traveled about 15 miles.

I left camp on the same day about 11 a. m.; made a patrol on Turkey Pen Trail and on Mount Everts. Travel very bad on account of snowdrifts. Game seen during patrol, about 40 elk on the slope south of McMahon Creek, 7 blacktail deer on the ridge of Mount Everts, and 6 mountain sheep on the west of Mount Everts. Found 1 fox that had died from the poisoned deer meat. No signs of anyone having been there since last patrol. Weather, mild. Traveled about 10 miles.

*February 6.*—Left camp at 9 a. m.; made a patrol on Turkey Pen Trail and to Cooke City road. Game seen, about 200 elk on the west side of trail and 1 mountain sheep on the mountain northeast of the trail, and about 200 antelope on Gardiner Flat. Sent Private Weston to the post to get one day's rations. No signs of anyone over the trail since last patrol. Weather, chinooky. Traveled about 16 miles.

*February 7.*—Left camp at 9.30 a. m.; made a patrol on the north boundary line. Scout Whittaker and I saw signs of blood on the trail leading to the line of the park; looked as if it was meat that was taken but the night before. Saw fresh tracks of a man and horse leading to the park; heard one shot fired close to the line. Also made a patrol on Reese Creek. Saw no signs of anyone having been there since last patrol. Weather, chinooky. Traveled about 12 miles.



[Scout Whittaker, 1898.]

*February 8.*—Reported to Captain Erwin for duty. Attended court at Commissioner Meldrum's house—Tom Miner case.

*February 9.*—Attended court again on Tom Miner case. Weather, clear.

*February 10.*—Attended court until 11.30 a. m., when trial was over. Prisoner found guilty of killing an elk in the park. Took Private Martin and all the pack mules out in the afternoon for practice. Weather, clear.

*February 11.*—Left post, mounted, with Private Root to make a patrol along north line of park, via Gardiner and Cinnabar, and try to locate Scotty's camp; found it on Trail Creek. Returned to post at 5.30 p. m. Weather, cloudy.

*February 12.*—Remained in the post.

*February 13.*—Took Private Murphy and left post, mounted, to make a patrol on Mount Everts. Returned to post at 5.45 p. m. Weather, cloudy and very windy.

*February 14.*—Remained in the post.

*February 15.*—Left post with Sergeant Wall, mounted, to make a patrol to Buffalo Creek and Mount Everts. Returned to post about 4.45 p. m. Left Sergeant Wall out on Mount Everts until about 7 p. m., when he should return to the post. He returned about that time.

*February 16.*—Reported to Captain Erwin at 9 a. m. for orders, but it was storming so hard at that time could do nothing. Storm ceased about 10.30 a. m. Received orders at that time to take Sergeant Wall and Private Weston with seven days' rations and leave post after dinner. Left post at 2.30 p. m.; put Sergeant Wall in camp, and returned to post with the mules. Weather, very stormy.

*February 17.*—Remained in the post.

*February 18.*—Left post with Private Slough, of D Troop, and Privates La Mont and Martin, of H Troop, with five days' rations and five pack mules, to make a patrol to Hellroaring Creek. Saw about 300 elk between forks of Gardiner River and outlet of Big Blacktail Creek. The beaver in this creek have not been molested. Saw 3 deer on east end of Mount Everts; 6 deer on north side of Yellowstone River, opposite camp. The snow was not very deep, except a few drifts. Weather, cloudy.

*February 19.*—Stayed in camp until 12.30; then went up the river with Private Slough to look for sheep sign. Sent Privates La Mont and Martin back to post with 2 mules, Private La Mont to return to camp after they got to Blacktail Lake. He saw about 75 elk and 4 deer. Weather, clear.

*February 20.*—Left camp with Private Slough and Private La Mont, and went down to Crevasse Creek to see if any one had been there, but saw no sign of anything having been done there since I was there last time. Mr. Knowles informed me that there have been all of 2,000 elk in sight at one time near his place, in the last fifteen days. I saw 26 elk on the east side of Crevasse Creek, one-half mile north of Mr. Knowles', inside the park. The elk seem to be working up very high and back towards the Hellroaring district. Saw 14 deer, 6 whitetail and 8 blacktail on opposite side of the river from our camp. The snow is not very deep anywhere yet, except on Crevasse Mountain. Saw one scabby elk near the ford on Oxbow Creek. Weather, clear and very warm.

*February 21.*—Left camp with Private Slough and Private La Mont. Rode up to south end of Cottonwood Basin to look over the sheep range and see if they were still there, but after looking over it carefully I could not see a single fresh sign of any sheep. I presume they have moved to some other range. Saw 5 whitetail deer near mouth of Cottonwood Creek. Saw about 1,000 elk between the ford and south end of Cottonwood Basin; also, found 3 calf elk that had been killed by mountain lion, there being fresh tracks of such animals around the carcass of each elk. Weather, stormy.

*February 22.*—When we woke up this morning we found all of our mules gone, but still had the troop horses left. We rode them after the mules, and found them about 2 miles from camp. Returned to camp, packed up, and proceeded to Sergeant Wall's camp. After we arrived there I received orders from Captain Erwin, through Private Weston, to investigate the killing of a deer about 1 mile above the Government ice lake. I found said deer and also the carcass of an elk. The deer had been shot, but the elk, in my opinion, had been killed by coyotes. I came into the post with Private Weston and Private La Mont, and reported the same to Captain Erwin, who gave me orders to remain in the post over night and return to Sergeant Wall's camp to-morrow morning, leaving Privates Weston and La Mont in the post. Saw 17 blacktail deer near mouth of Blacktail Creek, 6 on Mount Everts, 18 just above the Government ice lake. Saw about 250 elk on Mount Everts, and 7 coyotes same place. Weather, clear.

[Sergt. M. J. Wall, 1898.]

*February 16.*—Left camp at 4 p. m., to patrol the Gardiner Flat and portion of Turkey Pen. Found no signs of anyone crossing the Gardiner River. The antelope were on Gardiner Flat in small bands, from 10 to 15 in each band, and seemed to be



more wild and uneasy than ever. On my return I crossed Gardiner River and found about 150 in one band on the west side of Gardiner River, about 400 yards from Gardiner City, very much watched by the so-called citizens of Gardiner. Two men had guns; one of them Mr. Mack, the other was a stranger to me. There was also about 300 head of elk on the northeast slope of Mount Everts. Weather, cold and light snow. Traveled about 10 miles.

*February 17.*—Left camp at 10.30 a. m., and patrolled Buffalo Creek and Buffalo Mountain, and followed boundary line to where it crosses the Yellowstone River. Myself and Private Weston went to the camp of Crawford, which was supposed to be occupied by John Dewing. It was found deserted, and there was no evidence of its having been used by anyone lately. The cabin on north side of Buffalo Mountain is still used by parties, but have found no evidence of game being killed across park line, nor no new trails leading into park. Saw 5 blacktail deer on Buffalo Creek and signs of elk on Buffalo Mountain. Returned to camp at 6 p. m. Weather, cold. Traveled about 16 miles.

*February 18.*—Left camp at 9.30 a. m., and patrolled Reese Creek and north boundary line, myself and Private Weston. On going through Gardiner, a man joined us on the road, and told me there were parties going in there, but if I would watch it that night I would catch them coming out. I afterwards found his name out and asked those men's names, which he said he did not care to tell. I also found out that he was putting me on the wrong trail. Game seen, 6 blacktail deer on the west side of Reese Creek and 1 cow elk, which was wounded in the shoulder. She was then traveling up Reese Creek. Weather, cold. Traveled about 15 miles.

*February 19.*—Left camp at 10 a. m. and patrolled Trail Creek Mountain with Private Weston; also to find Crawford's camp, but could not locate it. Was told he had taken a load of meat out to Horr, and on my return myself and Private Weston went to Horr to find out if it was so. I was told he was not bringing his meat to that town. I saw Crawford there on the same day. Game seen: About 250 elk on slope of Mount Everts and 200 antelope on the west side of Gardiner River. Returned to camp about 6.30 p. m. Traveled about 20 miles. Weather, cold.

*February 20.*—Left camp at 10 a. m. and patrolled Trail Creek and also went to the town of Horr. I had sent Private Weston to Mount Everts, to find out if he could see the sheep on the regular range, but he could not see any signs of them. He thinks they have left Mount Everts. When I got to Horr I saw the said Brundage, and Dewing, and Drummond (a man who is a stranger to me), and Brundage's pack horses standing outside Mr. Welcome's saloon. Brundage had made a remark to the strange man, "I am ready, as I am out of meat and money, and we must go to-night." I heard him say, "We will go towards Reese Creek." After they had left I sent a telegram to the post for two men to report to me at Horr. Sergeant Alexander and Private Palmer reported to me. We waited until towards morning, then left for Reese Creek. We patrolled every place we thought we could find them, but failed to do so; then we thought they were notified. Returned to camp about 7 a. m. and Sergeant Alexander and Private Palmer returned to post. Weather, cold. Traveled about 28 miles.

*February 21.*—Private Weston left camp at 7 a. m. Made a patrol on the north boundary line and also up towards Ice Lake. Hearing shots fired, he went in that direction, and found one blacktail deer dead, about  $1\frac{1}{2}$  miles southeast of Ice Lake. He returned to camp, and not finding me there, waited for my return. I was making a patrol on Gardiner Flat. When I returned he reported it to me. Game seen by Private Weston: 50 head of elk on the west side of Gardiner River. Game seen by myself: 12 head of antelope on Gardiner flat. Weather, fair. Private Weston traveled about 12 miles; I traveled 4 miles.

*February 22.*—Left camp at 9.30 a. m. with Private Weston. Went to the place where Weston had seen the dead deer. We thought the best thing to do was to skin the deer and send Private Weston to the post to report to the commanding officer, which he did. I waited around there for some time to see if anyone would show up, but no one came, so I returned to camp. On my return I found Scout Whittaker and his party in my camp, and Private Weston returned from the post, with orders from the commanding officer for all to return to the post. Scout Whittaker told me he would leave me and Private Slough in camp until further orders. Game seen: 200 antelope on the west side of Gardiner River. Weather, fine. Traveled 8 miles.

*February 23.*—Left camp at 11 a. m. On my way I met Private Martin, and he told me to report to Scout Whittaker, myself and Private Slough, which I did; and he told me to take Sergeant Alexander and Private Lefler to the place where the deer lay, which I did; and then I was to report to Scout Whittaker, to find out where all the shooting was done which we heard. We could not find out, so we returned to camp about 9.30 p. m. Game seen: About 200 antelope on west side of Gardiner River; 14 elk around Ice Lake. Weather, fine. Traveled about 18 miles.

*February 24.*—Packed up all property and sent Private Martin to the post with

pack mules. I left camp at 10 a. m. to make a patrol to Horr, which I did, and meeting Mr. Welcome, he told me if I would lay for Brundage I would catch him. I returned to Cinnabar, and meeting Scout Whittaker, I reported to him what I had heard from Mr. Welcome. Scout Whittaker sent Private Slough to the post to find out what to do. Scout Whittaker told me to go as far as Mr. Shields's ranch and he would send me a man, which I did, and couldn't find any trail of Brundage, so I returned and found Scout Whittaker and Private Slough at Yellowstone Bridge, where Scout Morrison joined us shortly afterwards; then all returned to the post about midnight. Game seen: 7 blacktail deer. Weather, cold. Traveled about 30 miles.

[Scout Jas. G. Morrison, 1897 and 1898.]

*November 24, 1897.*—Left the post with Privates McReynolds and Miller to go over on the Gallatin. On account of deep snow we got no farther than the pocket on Fawn Creek, where we camped. Saw about 750 elk; also numerous signs of beaver on the Gardiner River and Fawn Creek. Distance traveled, about 12 miles.

*November 25.*—Took back trail down Fawn Creek about 4 miles; thence south along Quadrant Mountain to Indian Creek and up it about 4 miles to snowshoe shack, where we camped. Saw about 150 elk. Many signs of beaver on this creek. Distance traveled, about 15 miles.

*November 26.*—Remained in camp; scouting up Indian Creek. No signs of game. Distance traveled, about 10 miles.

*November 27.*—Proceeded to the post. Distance, 12 miles.

*February 14, 1898.*—Left the post, accompanied by Corporal Ornes and Private Rompre, at 9 a. m. for Soda Butte. Arrived at Yancey's at 4 p. m. Saw about 800 elk. Warm and snow. Distance, 20 miles.

*February 15.*—Left Yancey's at 9.30 a. m.; arrived at Soda Butte at 4 p. m. Saw about 500 elk. Distance traveled, 15 miles. Warm and pleasant.

*February 16.*—Remained at Soda Butte on account of very severe snowstorm. Warm and snow.

*February 17.*—Party, consisting of Corporals Ornes and Herb and Privates Edwards and Rompre, left station, mounted, for Mirror Plateau, following trail up East Fork of Yellowstone. The snow was too deep south of Miller Creek, so made camp south of it about one-fourth mile. Snow 2½ feet deep. Saw about 100 elk on north side of Cache Creek; a great number of Elk signs all the way up to Miller Creek. In Cache Creek bottom saw signs of blacktail deer, but saw only 1, a doe. Distance, 13 miles. Clear and very cold.

*February 18.*—Left camp with Corporals Ornes and Herb for Ponuntpa Springs on skis, following right bank of East Fork to within a mile of Timothy Creek, up Timothy to near its head, and camped. Snow about 3 feet, very loose, and skiing very hard. Saw a number of mountain lion tracks; also much beaver sign on Timothy Creek. Distance, about 10 miles. Privates Edwards and Rompre remained in camp. Mild; snowing all day.

*February 19.*—Following to head of Timothy and down Pelican Creek about 4 miles; thence across to Broad Creek, up it to hot springs near Fern Lake, arriving there about noon. Leaving Corporal Ornes to make camp, Corporal Herb and myself left for Ponuntpa Springs to look for buffalo. Found numerous signs of buffalo all around the spring and on both sides of Sour Creek. Followed them down Sour Creek to where a hot creek came down from a hot mountain on the north side, which they went up, and a close examination of the trail which they made going west to Hot Creek (the trail was not made in single file, but band was spread out). I estimated the band as follows: 4 calves, 8 bulls, about 8 or 9 cows, but think some of the signs which I took for cow signs may have been made by two-year-old bulls; in all 21 head. Ponuntpa Springs is an ideal wintering place for the band which is there, as there is no snow to speak of on the flat, which is about a mile long and three-fourths wide, and is covered with hot springs and hot creeks. The snow on Mirror Plateau is about 5 feet. Mild and fair weather. Distance, about 12 miles.

*February 20.*—Returned to camp on East Fork as went up. Temperature, mild; weather, fair. Distance, 18 miles.

*February 21.*—Entire party with pack train left for station (Soda Butte). Saw a few elk, also numerous signs of lynx on Cache Creek and Calfee Creek. Distance, 13 miles. Weather, stormy; temperature, mild.

*February 22.*—Left Soda Butte for Yancey's on return to post. Saw about 1,000 elk. Weather, fair; temperature, mild.

*February 23.*—Left Yancey's for post. Saw about 450 elk. Weather, fair; temperature, mild. All the game seen on this trip was in excellent condition for this time of the year.

*February 25.*—Scout Whittaker and myself left the post to patrol north line and locate Brundage's camp, and see if he had elk meat in his possession. Found that he had left his camp, but could not locate him. Saw about 400 antelope on flat in



front of Gardiner; 3 blacktail deer on road to same place. Went from Gardiner to Brundage's camp on Eagle Creek, from there down Trail Creek to Horr, up Yellowstone River to Cinnabar, and thence by road to post. On the head of Trail Creek we saw James Forsyth and Frank Bezere with a wagon load of elk meat; followed the back trail, and found where they were killing, on Eagle Mountain, about  $1\frac{1}{2}$  miles northwest of Gardiner. Weather, clear; temperature, mild. Distance, 25 miles.

*February 26.*—Scout Whittaker and myself left post to scout north line and meet train at Cinnabar. Saw 6 blacktail deer, 18 whitetail deer, about 400 antelope, and 4 elk. Weather, clear; temperature, mild. Distance, 17 miles.

[Scout Whittaker, 1898.]

*February 23.*—Left post with Private Martin and 2 pack mules, with grain for camp on McMahon Creek. After proceeding about 1 mile north of post I distinctly heard two shots fired near the north point of Sepulchre Mountain. I sent Private Martin on to camp, while I returned to post to inform Captain Erwin of the shooting I heard. Two men were detailed at once to go with me and see what had been done, or if anything had been killed. I took Sergeant Alexander and Private Lefler, of D Troop, and proceeded to the Government garden, where I met Sergeant Wall and Private Slough. I sent Sergeant Wall with Sergeant Alexander and Private Lefler and told him to put them on a hill above the Government Ice Lake, then come down where I was going to stop. I took Private Slough and patrolled along north line of the park to Gassert Creek, where I found the trail of a horse leading into the park; followed it, and saw where a man had dismounted from his horse and walked around awhile, then mounted his horse again and rode towards Cinnabar. I stayed out until 10 p. m., then returned to Sergeant Wall's camp. Sergeant Alexander returned to the post about 7.30 p. m. Saw about 300 elk near north point of Sepulchre Mountain; about 50 antelope on the Gardiner Flat. Weather, clear and warm.

*February 24.*—After packing up the mules I sent Private Martin to the post with them, while I took Private Slough and Sergeant Wall and patrolled the north line to Reese Creek. When I got to Cinnabar I was informed that Brundage was coming into Horr with a load of elk meat. Not knowing just what to do I sent Private Slough to the post with a letter to Captain Erwin for orders in this matter. About 7 p. m. I met Scout Morrison and Private Slough with orders from Captain Erwin to watch for Brundage and see if he had any meat in his possession. I sent Scout Morrison and Sergeant Wall to Trail Creek, while I watched the bridge at Gardiner. We stayed out until about 11 o'clock, but saw nothing of Brundage, and decided to return to the post. We arrived at the post about 12.30 p. m. Saw 14 elk back of Gassert ranch. Weather, clear and warm.

*February 25.*—Left post with Scout Morrison to make a trip to Eagle Creek and see if we could locate a band of 21 sheep, which were reported to have left the park. We saw nothing of them, but about 1 o'clock p. m. we came onto two men, Frank Bezere and James Forsyth, with a wagonload of elk meat, which had evidently just been killed. Frank Bezere asked us not to put him on the road for having the meat in his possession. We did not say anything, but went to Trail Creek, then to Horr, where we wired Captain Erwin about the meat we had seen. Then we proceeded to the post. Saw about 400 antelope at Gardiner, inside the park. Saw 6 deer near the post and 11 near the Government ice lake. Weather, clear and warm.

*February 26.*—Left post with Scout Morrison to patrol north line as far as Reese Creek. Went to Cinnabar. When train arrived, met Game Warden James F. Keown, who came up to arrest Bezere and Forsyth. He went to post to remain over night. We returned to post about 5 p. m. Saw about 350 antelope near Gardiner. Weather, clear and warm.

*February 27.*—Scout Morrison, State Game Warden James F. Keown, Sergeant Wall, Private Rompre, and myself left Fort Yellowstone to look for A. K. Crawford's camp and anybody that was violating the game laws. Mr. Keown and Scout Morrison went to Eagle Creek, while I took Private Rompre and Sergeant Wall and went down to Cedar Creek; scouted around there until about 4 p. m., then went to Cinnabar and remained over night. Mr. Keown and Scout Morrison returned to post. Saw 6 deer near the Government ice house; one had its front leg broken; I presume it was done while running. Weather, cloudy and warm.

*February 28.*—Received orders from Scout Morrison to meet himself and Mr. Keown at Gardiner with buckboard. We met there at about 9.30 a. m. After I saw Mr. Keown I told him I thought I could get him another case on Reese Creek if he could get along without me. He told me to go by all means and try to catch whoever was doing hunting at that place. I left Sergeant Wall and Private Rompre in his charge. After I got to Reese Creek I found the footprints of two men leading into the park, but could not find where they had done anything. I followed the tracks until about 3.30 p. m., when I saw the two men following a lot of elk trails that were there. I asked them if there was any game there. They said "Yes," but they could not find it. I started to go home, and after I went about 400 yards they started to follow



me out. I suppose they were going back to the coal banks where they were from. I returned to the post about 5.30 p. m., and reported all the doings of my trip to Captain Erwin. Weather, cloudy and warm.

*March 1.*—Remained at post. Weather, cloudy and warm.

*March 2.*—Received orders to go to Livingston with Scout Morrisou, in response to a telegram from State game warden to Captain Erwin, the acting superintendent of the park, to give our testimony in the Frank Bezere elk-killing case, which case was set for 6 o'clock p. m. On our testimony the accused was held for next term of district court. Said court convenes some time in the month of April. Weather, clear and warm.

*March 3.*—Returned from Livingston to Fort Yellowstone with Scout Morrison and reported for duty. Weather, cloudy and cold.

*March 4.*—Reported to Captain Erwin, the acting superintendent of the park, at 9 a. m., and received orders to take two men and eight days rations and work in the Reese Creek district, and as far east as the Gardiner River. At about 2 p. m. left post with Privates Rompre and Martin of H Troop, and Private Slough of D Troop, and four pack mules. Proceeded about 7 miles north of post and pitched camp at the north point of Sepulchre Mountain. After making camp I sent Private Martin back to post with all the mules. Saw about 250 antelope near Gardiner City; also saw a herd of 11 horses about 1 mile south of north line. Weather, cloudy and stormy.

*March 5.*—Left camp with Privates Rompre and Slough and patrolled the north line as far as the Gassert ranch; then I sent Privates Slough and Rompre back to camp, via Cinnabar, with orders to come to Reese Creek if I did not return to camp by 4 p. m. After leaving them I went to the McMahon ranch, on Reese Creek, to see if anybody was up there hunting, but learned that nobody had gone up there since last Tuesday. On that day two men brought out 1 elk, could not tell just where it was killed or who the men were, but they belonged in Horr. Saw about 75 antelope between Gardiner and Chadbourne's ranch, just outside the park, but they came back in the park towards evening. Saw 1 large bull elk near our camp. Weather, clear and very warm.

*March 6.*—Left camp with Private Rompre to patrol the north line as far as Reese Creek, and stayed there until 8.30 p. m., then returned to camp. Sent Private Slough to patrol east as far as the Gardiner River. He saw about 200 antelope near Gardiner, but inside the park. I saw about 50 near the Chadbourne ranch, outside the park, but they returned toward evening. There has been nobody on Reese Creek since Thursday night. The snow is going very fast on this creek. Weather, clear and very warm.

*March 7.*—Left camp with Privates Rompre and Slough to round up a herd of 9 horses that have been running on the park and send them into the post. After I got them started I let Privates Rompre and Slough take them to the post, while I patrolled the north line to Reese Creek again. After I got to Reese Creek I went down to Horr to see if I could find out anything about "Scotty" Crawford or Brundage, but I did not succeed in getting any information of Brundage. But "Scotty" was in Horr last night; I was told that he had given up hunting for meat. I went back to Reese Creek and remained there until 5.30 p. m., when it began raining so hard that I decided to return to camp, there being no sign of anybody up there to-day. Privates Slough and Rompre report seeing about 250 antelope near Government ice lake; they saw 8 deer near our camp. I saw 13 back of the Gassert ranch—all blacktail. They must have just moved in there; it is the first time I have seen them there this winter. Weather, cloudy and warm; wind blowing and raining in afternoon.

*March 8.*—Left camp with Private Slough and patrolled along the line to the Gardiner River, thence back to camp. Remained in camp until about 6.30 p. m., then started down to lay at Reese Creek. When I got there found out that there had been nobody up there, yet I returned to camp about 11 p. m. While in Gardiner learned that Brundage had been there yesterday, but did not bring in any meat. He returned to his camp last night. I saw about 350 antelope near Gardiner, but inside the park. I saw about 50 last night when I was coming back to camp from Reese Creek, along the road between Gardiner and Cinnabar, just above the Chadbourne ranch, but nothing seems to molest them. About 2 inches of snow fell here last night. Weather, cloudy; cold wind blowing all day.

*March 9.*—Left camp with Private Rompre to make a patrol to Reese Creek. I sent Private Slough to patrol to McMahon Creek, on Mount Evarts. When I got to Cinnabar I wrote Captain Erwin, the acting superintendent of the park, a letter requesting that I be allowed to remain in camp until Sunday night; also wrote a letter in regard to "Scotty" Crawford, but later I learned the information was false and wired the same to Captain Erwin. Towards evening I went to Horr. I remained there until 5.30 p. m., then went up to Reese Creek. There was nobody up there. I layed along the Yellowstone River until about 7.30 p. m., then I went to Cinnabar



and remained there until 9 p. m., then returned to camp. While at Horr learned that Brundage had a contract to furnish elk meat to a certain party, for a debt he owes to said party, to the amount of 1,500 pounds. Also saw two men come in with guns and a rope which had blood on it. Don't know where they came from. Saw about 75 antelope near Gardiner, inside the park, 12 deer back of Gassert ranch. Private Slough saw about 100 antelope on the McMahon bench at north point of Mount Evarts. A. K. Crawford went up to Bear Gulch to-day. Weather, cloudy and cold; wind blowing.

*March 10.*—Sent Private Slough to Reese Creek while I took Private Rompre and went to the post to report to Captain Erwin and see if I could return to camp and remain until Sunday. My request was granted, and I took two days' rations and Private Martin, with one pack mule, and returned to camp at 5 o'clock p. m. Sent Private Martin back to post with the mule. I saw about 100 antelope near Gardiner, about 100 on Mount Evarts, 2 deer on Mount Evarts, 6 on the Government dump, 9 near the Government ice lake, all blacktails. Saw 10 mountain sheep on Mount Evarts, near McMahon coal bank. Weather, cloudy and cold; wind blowing. About 6.30 p. m. Private Slough and myself met "Scotty" Crawford's partner going towards Gardiner with one pack horse loaded with grub. He went up to Bear Gulch.

*March 11.*—Sent Privates Rompre and Slough to Reese Creek while I made a patrol to the Gardiner River, thence back to camp. I saw nothing on my trip, but Rompre reported seeing 1 large bull elk on Reese Creek with one hind leg broken. About 4 p. m. decided to go to the post and ask Captain Erwin to let Scout Morrison come down to-morrow and go with me to Eagle Creek and see where "Scotty" Crawford's partner had gone to. I left the post again at 7.15 p. m., and patrolled the road back as far as Chadbourne's ranch, then returned to camp. I saw 15 black-tail deer on river bed, just opposite the Boiling River, 9 white-tail deer near the Government ice house, 57 antelope on west slope of Mount Evarts, just opposite the Boiling River. Captain Erwin told me he would have Scout Morrison meet me to-morrow. Weather, stormy and cold.

*March 12.*—Sent Private Slough to make a patrol to Gardiner River, then return to camp. After he had returned to camp I sent him with Private Rompre to make a patrol to Reese Creek again, while I went to meet Scout Morrison. I met Scout Morrison about 10 a. m., and proceeded to Eagle Creek; saw nothing there and returned to camp. There I found Privates Rompre and Slough in camp; they reported nothing on Reese Creek. Scout Morrison and myself saw George Mack, of Gardiner, hunting along the north line of the park, about 500 yards west of Gardiner. When he saw us, he came back to the road again and back to Gardiner. We saw about 75 antelope on the east side of Gardiner River, on the Gardiner Flat. Scout Morrison said he saw a great many in the J. C. McCartney field. The 13 deer that were back of the Gassert ranch have moved back into the park and up near the ice lake. Weather, cloudy; temperature, mild.

*March 13.*—Started out from camp on foot with Private Rompre to watch a small band of antelope near the north line, about 400 yards west of Gardiner. I saw two men near the line. Both of them had guns and were evidently hunting. I watched them until they returned to Gardiner. One of them fired two shots, but I could not see where he had killed anything. One of them was George Mack, of Gardiner. I returned to camp about 12.30 p. m., and found Private Martin had just arrived with the pack mules. I packed them up and sent him back to the post with Private Slough about 1.30 p. m., then took Private Rompre and went to Reese Creek. There had been nobody up there since I made camp here. I returned to the post about 7.30 p. m., and reported everything to First Lieut. G. O. Cress, the commanding officer. I saw about 300 antelope near the road about 400 yards west of Gardiner and outside the park. I reported the fact to Lieutenant Cress, who detailed 2 men to patrol the line to-morrow morning. Also saw about 150 on east side of the Gardiner Flat. Weather, very cold and stormy. About 4 inches of snow fell in our camp last night and to-day.

*March 14.*—Left the post with Lieutenant Arnold and 17 privates to shovel out the Golden Gate. Did not have much trouble in getting to the Gate, and it only took about three hours to get through the Gate. For about one-half mile from the Glen Creek Bridge we had to shovel a great deal of snow. Then it was easy to get to the Klammer cabin. From there on saw about 100 elk in the vicinity of Swan Lake Flat. Weather, stormy and cold.

*March 15.*—Left post and went to Gardiner and overtook 2 men who were sent out early in the morning. I took Private Hoover and sent Private Newman to post; then went along the line to Reese Creek, then came back to Cinnabar; stayed there until about 5 p. m., then started for the post. Saw about 300 antelope near Gardiner inside the park. In the evening saw about 75 near the road outside the park. Saw 17 blacktail deer, 4 in Government garden, 14 near Boiling River. Weather, cloudy and cold; wind blowing.

*March 16.*—Left the post with First Lieut. G. O. Cress, the commanding officer, and



rode up to the McMahon ranche, on north point of Mount Evarts; thence over to Gardiner Flat, then over to the J. C. McCartney field, then to the post via Government garden. Saw 1 blacktail deer near the Government ice house, 1 whitetail deer at the crossing of the old road over the Gardiner River, about 25 antelope on the west slope of Mount Evarts, almost opposite the Boiling River, and between 150 and 175 in the vicinity of Gardiner Flats and about 50 near the J. C. McCartney field. Saw 8 mountain sheep on the bluff near the Eagle's Nest, 5 deer on the west slope of Mount Evarts, opposite the first bridge over the Gardiner River from post. Weather clear and warm. At the Government garden we saw a duck going down the river on its back, and landed on the opposite side of the river. I then went over and caught it and found it bleeding from the head. Saw some fresh beaver sign just below the first bridge over the Gardiner River north of the post.

*March 17.*—Left the post with Lieutenant Hawkins to make a patrol to Reese Creek, then back to the post. Saw about 150 antelope in the vicinity of Gardiner Flat and north point of Mount Evarts, and about 150 west of Gardiner, some outside the park and some inside. Saw 10 mountain sheep on Mount Evarts, 24 elk near Government ice lake. Mr. McMahon informed us that some meat had been taken out yesterday. Weather, clear in the a. m. and cloudy in the p. m.

*March 18.*—Remained in post. Weather cloudy.

*March 19.*—Left the post with Sergeant Alexander, of D Troop, and Private Boniface, of H Troop; proceeded 7 miles north of the post and went into camp in my old camp at the north point of Sepulchre Mountain for three days. Saw about 50 antelope above the Boiling River on the east side of the Gardiner River, 29 near the first bridge over the Gardiner River north of the post, 11 blacktail deer about the same place, 2 at the Government garden, 9 near the Government ice lake. Arrived in camp about 7.30 p. m. Weather, stormy and cold.

*March 20.*—In the morning I took Sergeant Alexander and went on top of a high hill so we could see everything that took place on the north line of the park, between Gardiner and Reese Creek. We saw nothing up to 12.30 o'clock p. m. and returned to camp and left for Reese Creek about 5.30 p. m. There had been nothing up there since my last trip, which was on the 17th instant. We saw 8 deer near the Gassert ranche. Saw about 50 antelope one-half mile west of Gardiner and about 500 yards north of the park line. We returned to camp about 8.30 p. m. Weather, cloudy and cold; wind blowing.

*March 21.*—Left camp on foot with Sergeant Alexander and went almost to the park line to look for the antelope, but owing to the inclement weather we could do nothing, so we returned to camp until about 4.30 p. m. We then took our horses and rode along the park line as far west as the Gassert ranch, but saw nothing, so we returned to camp. It was almost impossible to do anything on account of the intense cold. We saw 3 blacktail deer about 300 yards north of our camp; 10 elk about 700 yards east of camp; all inside the park. Weather, stormy and very cold.

*March 22.*—Left camp with Sergeant Alexander and patrolled the north line as far as Reese Creek, thence back to camp. We left camp about 3.30 p. m. and went to Fort Yellowstone. Saw nothing on Reese Creek. Game seen to-day, about 150 antelope about 400 yards north of the park line and about one-half mile west of Gardiner; 3 blacktail deer one-fourth mile north of our camp; 19 blacktail deer near the McMahon coal bank on north point of Mount Evarts; 6 near the Government ice house one-fourth mile north of the post; 25 elk about one-half mile east of our camp; about 300 elk on Mount Evarts near the McMahon coal bank. Arrived at post 6.30 p. m. Weather, clear; very cold at night and warm during the day.

*March 23.*—Left the post with Private Murphy, of D Troop, on snowshoes and went around Mount Evarts down Resene Creek to Blacktail, thence back to post. Saw about 125 elk on east end of Mount Evarts; 6 mountain sheep same place. Weather, cloudy and cold.

*March 24.*—Left the post, mounted, about 10 a. m. to make patrol to Reese Creek, then back to post. Saw 3 men near the outlet of Gardiner River; think they were fishing, but could not swear to it. Saw about 125 antelope in the vicinity of Gardiner Flat; 52 on east side of Gardiner River, opposite Boiling River; 23 blacktail deer same place; also 8 near McMahon ranch on Reese Creek. Saw 14 mountain sheep on top of bluff at Eagle's Nest—7 ewes and 1 ram in one bunch and 6 ewes in the other. Saw about 300 elk near the head of McMahon Creek. Weather, clear and chinook wind blowing.

*March 25.*—Left post, mounted, with Private Palmer, of H Troop, to make patrol along north line to Reese Creek, thence back to the post. Left post 10.20 a. m., returned 4.10 p. m. Saw about 75 antelope on Gardiner Flat; 6 blacktail deer about 300 yards east of the post sawmill. Went to Reese Creek, but saw nothing there; the weather was too stormy to see very far off. Weather, stormy; light snow falling all day but not very cold.

*March 26.*—Left the post with Private Bledsoe, of D Troop. Went to the outlet of Gardiner River, then west along the park line to Reese Creek. At Gardiner I



found a fresh foot track leading into the park; followed it and found it to be Thomas Newcomb, but he had no arms with him. On the road to Gardiner I saw 4 mountain sheep at the Eagle's Nest. Saw about 75 antelope on the Gardiner Flat; about 150 400 yards west of Gardiner but inside the park; 13 blacktail deer near the Government ice house; 4 at the Government garden. Weather, stormy and cold.

*March 27.*—Remained in the post. Weather, clear; temperature, cold.

*March 28.*—Left the post to patrol to Reese Creek, but before I reached there I came across 2 footprints of men going towards the park and I decided to come up Reese Creek, then go back and follow the tracks. There was nobody on Reese Creek to-day. On my return I took up the trail of the 2 men. Had some difficulty in finding it once in a while, but I finally struck it where the snow was deep and found that there were 3 men instead of 2, and that they had gone about one-half mile into the park and there shot and killed 1 cow elk, and it looked as if they had wounded 2 others. They took the meat out last night. There were tracks of 2 men hunting along the line, but they did not get inside the park. I saw 7 mountain sheep at Eagle's Nest; 37 antelope on the west side of Gardiner River; about 75 at the junction of the Gardiner and Yellowstone rivers; about 250 1 mile west of Gardiner, and about 300 yards north of the park line saw 35 blacktail deer, between the Government ice lake and Gardiner River; 4 near the Eagle's Nest; 4 at the two-mile post north of the post; 6 whitetail at the Boiling River; 5 in the Government garden. Weather, clear; temperature, mild.

*March 29.*—Left the post with Lieutenant Lindsley; went to Gardiner City, then to Cinnabar, then to Horr, then back to where the elk were killed yesterday, then back to the post. Saw 42 elk on the north slope of Sepulchre Mountain, about 15 near the Gardiner ice lake; 3 blacktail deer near the Government garden; about 50 antelope on the Gardiner Flat on the north point of Mount Evarts. Weather, clear in the forenoon, cloudy in the afternoon; temperature, mild.

*March 30.*—Left the post with Scout Morrison, on skis, and proceeded to Norris. Saw no game. At Willow Park we met Corporal Moore, Private Root, and Private Fremont coming in off pass. Weather, cloudy; temperature, mild.

*March 31* (12 miles).—Left Norris with Scout Morrison and proceeded to Canyon Hotel. Saw no game on trip to-day. Weather, clear; temperature, mild.

*April 1.*—Left Canyon Hotel with Scout Morrison and proceeded to Lake Hotel. We took lunch at Mud Geyser Station. Took Privates Price and Canivan with us from there to Lake Hotel, intending to take them to the Thumb, but when we arrived at the Lake we found Sergeant Leob and two privates from Snake River Station. Scout Morrison and myself then decided to make up our trips from here. I am to take Privates Price and Canivan from Mud Geyser and Private Montgomery of Snake River Station, and go up the Upper Yellowstone River, then to Snake River Station, while he would take Sergeant Leob and Private Carter, and we would meet at that place. Saw 2 foxes and 1 coyote in Hayden Valley. Weather, clear; temperature, mild.

*April 2.*—Left Lake Hotel with Private Montgomery, of the Snake River Station, Privates Canivan and Price, of Mud Geyser Station, and proceeded to Beaverdam Creek. We went from Lake Hotel straight across the Yellowstone Lake to the lean-to on Beaverdam. The lean-to is filled up with gravel and snow so we could not stay in it, but had to camp in the woods near by. At Terrace Point we saw 14 elk and numerous signs of others. Saw 5 dead elk—last spring calves. Saw what I took to be two moose tracks near the east end of the lake on the mouth of Beaverdam Creek. Saw one fresh bear track which was made to-day along Beaverdam Creek. Have seen no signs of beaver at this place yet. Saw no signs of any poaching having been done. Will venture to say there are between 150 and 200 elk between Terrace Point and Beaverdam Creek. Weather, clear; temperature, warm.

*April 3.*—Same party left Beaverdam Creek and proceeded to the old Crawford cabin near Atlantic Creek. Camped there over night. There was a lynx at the cabin which had killed something and dragged it to the cabin. I think he had killed a lot of jack rabbits or else another lynx and eaten it up there at the cabin. There has been nobody at the cabin since the rations were put there, nor has there been any poaching done in that district this winter. At least there are no signs of any having been done. Saw 13 bull elk near the outlet of Mountain Creek; also saw signs of 6 moose between Beaverdam Creek and Mountain Creek. The Upper Yellowstone River is open in some places. From Mountain Creek to Crawford cabin there is no sign of game of any kind. The snow is too deep to permit any animal to live in it. Weather, clear and warm. Twenty miles.

*April 4.*—The same party left Crawford Cabin and proceeded to the gold mines on Pacific Creek. Went up Atlantic Creek and down Pacific Creek. We saw no sign of any game until we got to Coral Creek; there we saw one fresh bear track. The snow will average 7 or 8 feet in depth in that country. Weather, clear; temperature, hot. Twenty-one miles.

*April 5.*—Same party left gold mines on Pacific Creek and proceeded to Snake River Station. Saw no game of any kind. Left gold mines at 8 a. m.; arrived at station at 7.30 p. m. All the game I have seen is in very good condition; I don't think they will have any trouble in getting through the rest of the winter. Weather, clear and warm.

*April 6.*—Same party remained at the Snake River Station to wait for Scout Morrison and party to return from the Falls River country. Weather, clear and warm, but very stormy towards evening.

*April 7.*—Party still remaining at station, waiting for Scout Morrison and party. Scout Morrison and party returned from Falls River country to-day. Weather, very stormy, but not cold.

*April 8.*—Remained at Snake River Station. Weather, cloudy; temperature, warm.

*April 9.*—Left Snake River Station with Scout Morrison, Sergeant Leob and Private Carter of Snake River Station, and Privates Canivan and Price of Mud Geyser Station, and proceeded to Shoshone Geyser Basin. Camped near the Union Geyser. Saw signs of 6 or 7 elk on Polecat Creek. Weather, clear; temperature, warm. Thirty miles.

*April 10.*—Same party left Shoshone Geyser Basin and proceeded to Upper Geyser Basin lunch station via Lone Star Geyser. Left camp 4.40 a. m.; arrived Upper Basin 8.30 a. m. Saw no sign of any large game. Saw no sign of anybody having been in that country this winter. Saw one pine marten at Upper Basin. Weather, cloudy; temperature, warm.

*April 11.*—Same party left Upper Geyser Basin and proceeded to Lower Geyser Basin or Fountain Hotel. Five miles from Upper Basin, on the road to the Fountain Hotel, we saw a trail across the road, and, to the best of my knowledge, it was a trail made by buffalo, but could not tell how many of them had made the trail, it being about three or four days old. I think they were going north; there were at least 3 of them on the trail. Toward Mary's Mountain there are a great many elk signs between the Excelsior Geyser and the Fountain Station. There is a great deal of bare ground between the Upper and Lower Basins and snow is very soft. We had to wade about one-half of the way. We went to the station and remained over night with Corporal Holman. Weather, clear; temperature, mild. Ten miles.

*April 12.*—Left Fountain Station with Scout Morrison, Sergeant Leob, and Private Carter of Snake River, and proceeded to Norris Station. Stayed there over night. There is about 6 miles of bare ground between Fountain and Norris Basin. Saw a few elk sign in Gibbon Canyon. Privates Canivan and Price left me at Fountain Station to go back to their station at Mud Geyser; they will go over Mary's Mountain and through the Hayden Valley. We arrived at Norris about 8.30 a. m. Weather, clear; temperature, warm. Twenty miles.

*April 13.*—Same party left Norris and proceeded to Fort Yellowstone. Left Norris at 3 a. m.; arrived at post at 8.10 a. m. Saw no game on road. The snow is going very fast. This entire trip from March 30 to the present day has been made on skis and covers a distance of about 235 miles in all. All the game I have seen is in very good condition. The rations in the Beaverdam and Crawford cabins are in bad condition, except the coffee. The mice and rats have got into the boxes and have eaten up some of them, and what they did not eat they have spoiled. Private Price of the Mud Geyser Station is a very good man to have on such a trip. Private Montgomery went snow-blind at the Crawford cabin and could hardly get to Snake River Station. We had to walk into the post from Golden Gate. Weather, clear; temperature, warm. Twenty miles.

*April 14.*—Left the post with Scout Morrison, mounted and went to Cinnabar, then back to the post. Saw 36 blacktail deer near the Boiling River; 30 antelope—22 opposite the Boiling River, 8 on the Gardiner Flat. Saw a fire burning about 300 yards north of the park line near the Gardiner Ice Lake. Weather, clear and warm.

*April 15.*—Left post, mounted, and went around Mount Everts to try and locate the mountain sheep. Saw 7 near the coal bank, 4 on Turkey Pen, 4 on east end of Mount Everts. Saw 65 blacktail deer—7 about 200 yards east of post hospital, 4 on McMahon Creek, 10 on Turkey Pen road, 1 on Red Mountain, 10 on Cooke City road on East Gardiner River, 21 on west slope of Mount Everts, about 600 yards east of Boiling River, 12 opposite the Boiling River. Saw 67 antelope on Turkey Pen road, 27 near the coal banks, 19 opposite Boiling River; 5 bull elk at the top of the Gardiner grade. Weather, clear; temperature, hot.

*April 16.*—Left post, mounted, and went over old road to Reese Creek. Saw 11 mountain sheep on top of Mount Everts, about 150 antelope on the Gardiner Flat, 7 whitetail deer 1 mile west of Gardiner and about 300 yards north of park line. Weather, cloudy and rainy at Cinnabar; temperature, mild.

*April 17.*—Remained in post. Weather, cloudy; temperature, warm.

*April 18.*—Remained in post. Roached pack mules in the forenoon. Weather, clear and warm.

*April 19.*—Remained in the post. Weather, clear; temperature, warm.



*April 20.*—Went to Livingston, Mont., with Scout Morrison, on the case of Frank Bezere for killing elk, to give our testimony in said case. Weather, rainy; temperature, cold at Cinnabar.

*April 21.*—Attended court in Livingston, Mont., to give testimony against Frank Bezere, defendant; he was found "not guilty." Weather, cloudy; temperature, warm.

*April 22.*—Returned from Livingston, Mont., to Fort Yellowstone and reported for duty to the commanding officer. Arrived at post at 2.45 p. m. At 5.45 p. m., left post with Sergeant Welch and 2 pack mules and went to Gardiner to get some Tom Moore pack saddles; returned to post at 9 p. m. Saw 14 blacktail deer between Boiling River and the Government ice house. Saw 4 mountain sheep at Eagle's Nest, about 150 antelope on the Gardiner Flat. Weather, cloudy and rainy in Gardiner and Cinnabar; temperature, mild.

*April 23.*—Left the post, mounted, with Sergeant Welch, Private Hemstead and Private Holt of H Troop, and 4 pack mules and 2 lead horses, and proceeded to Norris Station. We left post at 9.45 a. m., arrived at Crystal Spring 1.15 p. m. Left Crystal Spring at 2.10 p. m., arrived at Norris 5 p. m. We made the trip in about six hours travel, which was remarkably good time, this being the first mounted party to make the trip this spring. There was about 5 miles of pretty deep snow, but it was so soft that a horse could pass right through it without much trouble; the rest was easy traveling. Private Helm met us at Bijah Spring. We saw several bear tracks on the road between Twin Lakes and Norris. Weather, clear; temperature, hot.

*April 24.*—Left Norris, mounted, with Private Hemstead and 2 pack mules and went to the Riverside Station. There was not a great deal of snow on the road in the 26 miles we traveled. We did not go through more than 4 miles of snow, and it was so soft that it was just like going through so much water. The ground is very soft in some places. There is some fallen timber and a great many rocks in the road in Gibbon Canyon; in fact, the road is in very bad condition for a team to get over them before they are repaired. Saw about 50 elk at the forks of the Gibbon and Firehole rivers, 3 fresh bear tracks in Gibbon Canyon, several in Madison Canyon. From Norris Sergeant Welch and Private Holt took 2 mules and returned to the post. I wired the Fountain men to meet me at the forks of the road and take their led horse to their place until I came back from Riverside. I met Corporal Holman in the Madison Canyon going to his station. Weather, clear; temperature, very hot, and does not freeze any at night.

*April 25.*—Left station with Sergeant Bernstein, mounted, and rode north to Maple Creek, then returned to station. Saw some fresh elk sign in the fallen timber close to Maple Creek. Sergeant Bernstein showed me where 3 elk were killed last December. They were inside the park about 8 miles north of the station, or 1 mile west of north. Sent Private Norvell and Private Will into the post from here, so that they would not have to go to the Fountain. Decided to hold Private Ornes and the mules over to-day; the stock was a little tired. There is no snow to speak of around here or Sand Butte, but the ground is very soft and a horse mires down very easy. It would be very hard for any poacher to get into the park just now. Weather, clear; temperature, hot.

*April 26.*—Left Riverside Station with Sergeant Bernstein, Private Ornes, and Private Hemstead, and went to Fountain Station. At the forks of the road, I sent Private Hemstead to Norris. Saw a great many fresh elk tracks in Gibbon Canyon. The roads are drying up very fast. There is no snow around this place. Weather, clear; temperature, hot; high wind blowing.

*April 27.*—When I got up this morning I found my horse and the 2 mules gone; began to look for them and found they had gone to Norris. I saddled up Private Ornes's horse and went after them. It was 11.30 a. m. before I got to Norris. I started back at 1 p. m.; arrived here at 5.10 p. m. I sent Privates Burdette and Stitham on their way to the post and told them to take Private Hemstead with them when they left Norris and I would take Private Ornes and go clear through to the post to-morrow with the pack mules. The wind storm of yesterday did a great deal of damage in the Gibbon Canyon to the telephone line. It is broken in about 25 places and down for about one-half mile in some places and there are at least 100 fallen trees across the road, and the most of them will have to be cut out before a wagon can get through. In my orders for this trip, I was ordered to take Corporal Holman from the Fountain and make a trip on skis up to Bear Parks, stay there over night, and next day go out as far as possible and return to cabin again. Not being able to make the trip at present on account of sickness, I decided to go to the post and report the fact to Lieutenant Lindsley. I could not get any message over the telephone because the wires were down. There has been a band of elk come up the road from the Madison Canyon to the Twin Buttes. There are about 500 elk in this vicinity. One fresh beaver sign in Nez Perce Creek about 2 miles above the station. Weather, clear; temperature, hot. Distance, 40 miles.



*April 28.*—Left station with Private Ornes and Private Sybert, mounted, with 2 mules and proceeded to Fort Yellowstone. Left Fountain at 7.30 a. m.; stopped at Norris for dinner; left Norris at 1.30 p. m. Saw where 2 elk crossed the road at Crystal Spring, 2 at Obsidian Cliff; several fresh beaver signs in the road between the Fountain and Crystal Spring; 4 Elk on Swan Lake flat. The telephone wire is down very badly all around the park. Very little snow between Norris and the post. Weather, cloudy; temperature, warm.

*April 29.*—Remained in the post. Weather, cloudy; temperature, mild.

*April 30.*—Remained in the post on account of sickness. Cloudy, snowing a little; temperature, cold.

*May 1.*—Remained in the post on account of sickness. Weather, cloudy; temperature, cold.

*May 2.*—Left post, mounted, with Scout Morrison and made patrol to J. S. Knowles' cabin on the Yellowstone River. Saw about 300 elk near Blacktail Creek; 8 blacktail deer near the outlet of the creek; 5 antelope same place. The beaver on Lava Creek are not working any this spring—at least there are no signs of any work. The beaver in Blacktail Creek are doing some great work at present. They are building some fine dams on the creek, about 1 mile from its outlet. Weather, cloudy; temperature, cold.

*May 3.*—Left J. S. Knowles's cabin with Scout Morrison and returned to the post. Saw some signs of people fishing on the Yellowstone River above Mr. Knowles' place. They come up from Gardiner and camp over night in an old cabin near Knowles' place and fish from there. We saw 1 man fishing on the river on the east side, opposite mouth of Blacktail Creek; his name was Mike O'Brien, from Gardiner City. Saw 3 dead elk, last spring calves, near the Blacktail ford. Saw about 200 elk on Blacktail; 2 antelope same place. I saw 2 and Morrison saw 6 mountain sheep near mouth of Blacktail. Weather, cloudy and cold.

*May 4.*—Remained in the post, owing to sickness. Weather, cloudy; temperature, cold.

*May 5.*—Left post with Scout Morrison, mounted, to make a patrol to headwaters of the Gardiner River and Indian Creek, but could not get there on account of deep snow. Saw about 30 elk near Mr. Klamers slaughterhouse on Swan Lake Flat. Weather, cloudy; temperature, cool.

*May 6.*—Left post, mounted, with Scout Morrison and 2 pack mules to make patrol to Hellroaring Creek. Camped at the mouth of Cottonwood Creek. Saw 2 men fishing on the Yellowstone River; they had about 30 pounds of fish between them. Saw quite a number of elk in the vicinity of Blacktail Creek. Saw 10 blacktail deer on the Cooke City road along the Gardiner grade. Met Lieutenant Lindsley with pack train at Blacktail Creek on his return to post from Soda Butte Station. Weather, cloudy; temperature, mild.

*May 7.*—Left camp on Cottonwood Creek and rode over to Hellroaring Creek. Saw 4 whitetail deer and 4 blacktail between Cottonwood and Hellroaring creeks. Found 2 dead bull elks that died this spring, and 7 that I believe were killed for their teeth alone; but they were killed last year if they were killed at all. Weather, clear; temperature, mild.

*May 8.*—Left camp and returned to the post. Saw about 25 elk on Blacktail Creek; 1 antelope same place; 10 blacktail deer on the Gardiner grade on Cooke City road. The Yellowstone River is very high at present; will be hard to ford from now on. Weather, clear; temperature, warm.

*May 9.*—Left post, mounted, and went to Gardiner City to get some pack saddles. Returned to post at 7 p. m. Saw 11 mountain sheep on Mount Evarts, opposite Boiling River; 1 at the Eagle's Nest. Weather, clear; temperature, warm.

*May 10.*—Remained in the post to fix up the pack-train outfit for use. Weather, cloudy; temperature, warm.

*May 11.*—Remained in the post to work on the pack train. Weather, clear; temperature, warm.

*May 12.*—Remained in the post on account of sickness. Weather, clear; temperature, warm.

*May 13.*—Left the post with Mr. A. E. Burns to make patrol on Reese Creek. Mr. McMahon informed me that A. K. Crawford was up on Reese Creek last Sunday. We followed up the creek and saw where somebody had gone up into the park, but they came out again. I presume they were trying to get into the park. We saw 5 deer near the Boiling River. Weather, clear; temperature, warm.

*May 14.*—Left post, mounted, with A. E. Burns and 1 pack mule, and proceeded to the headwaters of Glen Creek; camped there over night. Saw 6 elk on the west slope of Sepulchre Mountain. Weather, clear; temperature, warm.

*May 15.*—Left camp on Glen Creek, and went to head of Reese Creek, down said creek to the McMahon ranch, then to the Gassert ranch, then along the foot of Sepulchre Mountain to the post. Saw 13 deer at the old brickyard on the old Gardiner road, 3 near the Transportation barn. Weather, cloudy; hard rain falling around



Electric Peak. There are quite a number of bear signs and fresh elk signs also. There are about 25 head of cattle and a few horses running on the park southwest of Gardiner City. There has been nobody through the Electric Peak Pass yet, but there are some fresh horse tracks along the park line on Reese Creek.

*May 16.*—Remained in the post on account of sickness. Weather, cloudy and rainy; temperature, cool.

*May 17.*—Went to Gardiner and returned to the post; saw 3 deer near the old brickyard; intended to start for Yancey's in the afternoon, but the weather was bad, so received orders to wait until morning. Weather, cloudy and rainy; temperature, mild.

*May 18.*—Left post with A. E. Burns, mounted, and 3 pack mules, and proceeded to Yancey's Hotel; saw 2 deer on the new Cooke City road, 4 near the halfway place, 4 in the Devils Gut, 4 antelope near the Blacktail Creek; also a great many elk scattered along the road to Yancey's—at least 400 of them. The beaver in the Blacktail Creek have not been molested this spring and they are doing a great deal of work all along the creek. In the vicinity of Yancey's place the beaver are increasing very rapidly; all the small creeks have beaver in them now; they are doing a great deal of work at present and have not been molested by anyone. Weather, cloudy and rainy; temperature, mild.

*May 19.*—Remained at Yancey's owing to the inclement weather; also to prospect the beaver dams in all the creeks around here; found them all in good condition and beaver doing a great deal of work on them; saw 25 elk near the hot spring, 2 miles southeast of Yancey's. Weather, cloudy; drizzling rain all day; temperature, mild.

*May 20.*—Left Yancey's and proceeded to Soda Butte; saw about 3,000 elk between Yancey's and Soda Butte, 37 antelope between Junction Butte and Little Specimen Creek, 17 deer near the Junction Butte. The beaver are doing a great deal of work in the streams around this district. Weather, cloudy and very stormy; temperature, cold.

*May 21.*—I remained at the station while Burns went up to Death Gulch and Cache Creek. Private Edwards went to Hellroaring Creek; Herb went with Burns. Privates Root, McDonald, and Paluer arrived to-day to relieve the present detachment. Herb and Burns report 11 dead bear in Death Gulch. Weather, cloudy; temperature, mild.

*May 22.*—Left station with A. E. Burns and went to J. S. Knowles' cabin on Crevasse Creek. Private Hardin and Private McDonald left station ahead of me to meet Private Edwards on Slough Creek; we met them all at that place. Slough Creek and Hellroaring Creek are up pretty high, but we had no difficulty in crossing them. On our way down the river I saw a man fishing along the bank, about 150 yards above the ford; did not say anything to him, but came down to the old cabin below Knowles' place, and there I found a man camped. I asked him what he was doing and he said himself and 2 other men were fishing. I went into the cabin and found about 20 pounds of fish hanging up in a secluded place. Everything looked rather suspicious to me; the man at the cabin said the other two were out fishing; but I saw 2 poles and 2 sacks at the cabin, and I concluded he was not telling the truth about the matter. I had come down the river myself and saw but one man, while the other ones were not there, as he had told me. They had been here three days—two of them—while the third one had come up last night. I told them they would have to stop fishing and return to Gardiner. They leave to-morrow morning. Saw about 2,500 elk between Soda Butte and Cotton Creek; 2 deer and 7 antelope on Slough Creek. Weather, cloudy; hard rain in the evening; temperature, mild.

*May 23.*—Left camp at J. S. Knowles' and proceeded to Fort Yellowstone. Before leaving camp, I went down to see if the 3 men who were fishing had left their cabin; found they had gone. When we went through Gardiner, I saw them there. Saw no game. Weather, cloudy and raining hard part of the day; temperature, cold.

*May 24.*—Remained in the post until 3 p. m., then took Private Kelner and 1 pack mule and went to J. S. Knowles' cabin on Crevasse Creek with order from the commanding officer and Acting Superintendent of the park to destroy all the cabins around Knowles' place. I burned 4 of them; 1 belonged to Tom Miner, 1 to Charles White, 1 to David Borem, and 1 to J. S. Knowles. I moved everything out before setting them on fire. Saw quite a number of grouse on Crevasse Mountain. John Ballinger is camped about one-half mile from the park line; saw where he had been in the park on foot on Crevasse Mountain. Weather, cloudy; temperature, cool.

*May 25.*—Left Knowles' to return to the post. Before leaving I looked at all the cabins that had been burned to see that there was no danger of fire spreading; found them all about out. The Yellowstone River is very high and muddy. Saw 1 deer, 1 mile north of the post. Weather, cloudy; temperature, cool.

*May 26.*—Left post and went to H. E. Klammer's slaughterhouse and stayed there over night. Weather, cloudy; temperature, cold.

*May 27.*—Left slaughterhouse and rode up almost to the pocket on Fawn Creek.

The beaver have not done any work on this creek this spring. Three dams have been torn out, but it has been done a year or two ago. Saw about 300 elk on Fawn Creek and 27 on the Gardiner River. The beaver in Gardiner River are doing some work; but, owing to the high water, it is hard to tell how many there are in the district. Weather, clear; temperature, mild.

*May 28.*—Left post with Private Williams, of D Troop, and returned to the Gardiner River, then up Indian Creek to the foot of Bighorn Pass. The beaver are doing some work at present and have not been molested this spring, or up to the present time. There are about 500 elk near the headwaters of Indian Creek, 57 on Panther Creek, and 7 on Gardiner River. Left post at 7.45 a. m., returned at 3.30 p. m. Weather, cloudy; raining part of the day, and very cold.

*May 29.*—Remained in the post. Weather, cloudy; temperature, cool.

*May 30.*—Left post and went to Gardiner and Cinnabar. Returned to post this afternoon; went down to gather information. Weather, cloudy, stormy, and cold.

*May 31.*—Owing to no appropriation being made, I was laid off; this is the end of my scouting duty.

[James G. Morrison.]

*March 26, 1898.*—Remained at post. Weather, stormy; temperature, mild.

*March 27.*—Remained at post. Weather, clear; temperature, cold.

*March 28.*—Remained at post. Weather, clear; temperature, mild.

*March 29.*—Remained at post. Weather, clear; temperature, mild.

*March 30.*—Scout Whittaker and myself left post for Snake River Station. Stopped at Norris over night. Weather, cloudy; temperature, mild.

*March 31.*—Left Norris for Canyon. Weather, clear; temperature, mild.

*April 1.*—Went to the lake from Canyon, stopping at Mud Geyser for luncheon, and taking Privates Price and Canivan with us. Met Sergeant Leob, Privates Carter and Montgomery, from Snake River, at lake. Saw about 50 swan, 4 foxes, 2 coyotes. Weather, clear; temperature, mild. Distance, 17 miles.

*April 2.*—Scout Whittaker, Privates Canivan, Price, and Montgomery left Lake Hotel for Beaverdam cabin. Myself, Sergeant Leob, and Private Carter left Lake Hotel for Snake River Station; stopped over night at Thumb. Weather, clear in the forenoon, cloudy in the afternoon, and a little rain in evening; temperature, mild. Distance, 15 miles.

*April 3.*—Left Thumb for Snake River Station. Stopped at Lewis River cabin for lunch. Saw signs of 1 elk at Thumb and sign of a moose on Warm Spring Creek, about  $2\frac{1}{2}$  miles from Snake River Station. Weather, cloudy; temperature, mild. Distance, 27 miles.

*April 4.*—Stayed at Snake River Station. Weather, clear; temperature, mild.

*April 5.*—Privates Carter, Wharam, and myself left station. Went to Grassy Lake on road that leads to Falls River. Left the road there, turning southwest, coming out in Falls River Basin between Loon Lake and a lake about  $2\frac{1}{2}$  miles south of it, on a creek which has no name. Continued southwest about 3 miles and made a camp. Left Private Wharam in camp and went with Private Carter about 3 miles, coming out in a large flat, which extends northeast and southwest. On southwest end of flat we saw a shack which we went to and found a log house about 20 by 30 feet. Northwest of house is a log stable about 20 by 50 feet, alongside of which are two large haystacks. South of the house and stable about one-half mile are three stacks more. I believe these are all in the timber reserve about  $1\frac{1}{2}$  miles. There were no signs of anyone having been there or around there this winter. The streams in this country are all open, but saw no signs of beaver. Saw 2 mountain lion tracks. After finding cabins and hay Carter and myself returned to camp. Weather, clear; temperature, mild. Distance, 28 miles.

*April 6.*—Left camp, traveling northwest, striking Falls River near junction of Bechler River; thence up Falls River to Mountain Ash Creek, crossing the river, and up Mountain Ash Creek to cabin on same. Saw fresh signs of moose on Falls River near where we struck it; also fresh sign on Mountain Ash Creek, near cabin. Weather, clear in a. m., cloudy in p. m., snow in evening; temperature, mild. Distance, 22 miles.

*April 7.*—Left cabin on Mountain Ash Creek for Snake River Station; on arriving there found Scout Whittaker awaiting me with his detachment, having come from Upper Yellowstone. Saw signs of beaver in Proposition Creek. Weather, cloudy and snow; temperature, mild. Distance, 18 miles.

*April 8.*—Stayed at Snake River Station. Weather, stormy; temperature, mild.

*April 9.*—Sergeant Leob, Scout Whittaker, Privates Carter, Canivan, and Price, and myself left station, going over Pitchstone Plateau to Shoshone Geyser Basin. In going up Pole Cat Creek saw signs of 6 or 7 elk; sign of 1 in geyser basin. Weather, clear; temperature, mild. Distance, 30 miles.

*April 10.*—Same party left Shoshone Geyser Basin, going up Shoshone Creek about 3 miles; thence across to Firehole River, down it to Lone Star, there to road and to



Upper Basin. Saw signs of large game to-day. Weather, clear in forenoon, cloudy in afternoon; temperature, mild. Distance, 15 miles.

*April 11.*—Same party left Upper Basin, went to Fountain, walking about one-third of the way. Saw trail across road about 4 miles from Upper Basin of buffalo. I think there were 3 of them, but trail was about four days' old and in deep snow, and the number may not be accurate. Many signs of elk between Upper Basin and Fountain. Weather, clear; temperature, mild. Distance, 10 miles.

*April 12.*—Same party left Fountain for Norris. Saw signs of about 10 elk in Gibbon Canyon. Weather, clear; temperature, mild. Distance, 18 miles.

*April 13.*—Same party left Norris for Springs. Saw signs of beaver working on Willow Creek. Weather, clear; temperature, mild. Distance, 20 miles.

*April 14.*—Went to Cinnabar, Mont., to serve subpoenas on James Hawk and Frank Scott. Weather, clear; temperature, mild.

*April 15.*—Left post for station on Swan Lake Flat. Weather, clear; temperature, mild. Distance, 5 miles.

*April 16.*—Sergeant Welch, Private Holt, and myself left station, going west on Gardiner River, down it to mouth of Indian Creek, back to station along ridge east of river. The river is open in many places. Some signs of beaver working. Weather, clear; temperature, mild. Distance, 12 miles.

*April 17.*—Sergeant Welch, Private Holt, and myself left station, going west to Gardiner River, up it about 3 miles, then west across ridge to Fawn Creek, down it to mouth, back to station along ridge east of river. The river is open in many places and much sign of beaver work, one very large dam having been built this spring. Saw 29 elk near mouth of Fawn Creek. Weather, cloudy and snow; temperature, mild. Distance, 19 miles. Left station for post in evening.

*April 18.*—Remained at post. Weather, clear; temperature, mild.

*May 3.*—Scout Whittaker and myself left post, going out Cooke City road to Turkey Pen trail, down Blacktail Creek to Yellowstone River, crossing at ford, thence down river to Knowles place, stopping there over night. Examined beaver dams on Blacktail and found them undisturbed. Saw about 350 elk, 8 blacktail, 2 antelope on or near Blacktail. Weather, cloudy; temperature, cold; distance, 14 miles. We left Knowles, going up river to ford. Saw Mike O'Brien near ford fishing. He said he came from Gardiner this a. m. Crossed river, thence up Blacktail Creek to road, and thence to post. Saw about 200 elk, 2 antelope, 2 coyotes, 3 blacktail deer. Weather, cloudy; temperature, cold. Distance, 14 miles.

*May 4.*—Went part way to Gardiner and back to post on bicycle. Weather, cloudy; temperature, cold.

*June 21.*—Left post with Private Price for Gallatin; went up Fawn Creek through Fawn Pass; about 3 feet of snow in pass; camped on Gallatin River north of Crowfoot Ridge. Saw 12 elk near head of Fawn Creek; fresh signs of beaver on Fawn Creek opposite pocket. Distance, about 21 miles; weather, clear and warm.

*June 22.*—Left camp on Gallatin, going down it to where it turns north, then back northeast to head of Stellaria Creek, down to its mouth, and then down Fan Creek to mouth of it, camping on Gallatin River. Saw 1 cow elk on Stellaria Creek; no signs of beaver on any of the streams. Nobody has been in this country this spring. Weather, cloudy and warm. Distance, 14 miles.

*June 23.*—Leaving the camp on Gallatin, went down the river about 2 miles, when we struck fresh trail of three horses coming up and going back again. Followed trail about 2 miles down Gallatin; there it turned up a small creek coming in from the west; up it about one-half mile found a man in camp, Haskell by name, who had located a mining claim. He is camped about on or near park line (west). Had no horses; said his partner, Curtis, who lives on Gallatin about 3 miles outside of park, had gone to Bozeman for more provisions. Says he has been at his present camp since April 25. Showed us where the cabin was, and I think about one-half of it is in the park. Saw no sign of him doing any trapping or hunting; he had no gun, but plenty of picks and shovels. He is prospecting for George Alderson, of Bozeman. On the 15th he saw 2 men with 2 pack horses and 1 pack mule going up the Gallatin River. Says his partner, Curtis, told him it was "Scotty" and another man from Horr. I followed the trail he showed me up the Gallatin to near the mouth of Fan Creek; there it turned east. Will continue on trail up Fan Creek to-morrow. Saw 1 fish otter in Gallatin River near mouth of Baconrind Creek; while watching him he caught 2 fish. Distance, 17 miles. Weather, cloudy and rainy.

*June 24.*—Left camp on Gallatin, going up Fan Creek. Saw no signs of trail until I got up about 3 miles, then saw some trail had been made on Gallatin. It made for the pass between Fan Creek and Sportsmans Lake; followed it down Mulharen Creek to park line. Saw signs of fishing in lake. Saw no game to day. Camped about on north line of park. Weather, cloudy and rainy. Distance, 15 miles.

*June 25.*—Left post with Privates Wigman and Canivan. Went to Yancey's. Saw no game. Weather, cloudy and rainy. Distance, 20 miles.

*July 1.*—Left Yancey's, going across bridge of Yellowstone. Camped on river. Saw 9 antelope. Weather, clear. Distance, 8 miles.

*July 2.*—Left camp on Yellowstone River, going up point of Specimen Ridge and along it to head of Deep Creek. Camped on head of Deep Creek. Saw 29 antelope and 1 elk. Weather, clear. Distance, 18 miles.

*July 3.*—The 3 pack mules took back trail to Yancey's, Wigman and myself following them, and got them at Yancey's. Stayed there over night, Canivan staying in camp. Saw about 50 antelope on Specimen Ridge. Weather, clear. Distance, 26 miles.

*July 4.*—Wigman and myself returned to camp on head of Deep Creek. Saw about the same antelope as on 3d. Weather, clear. Distance, 26 miles.

*July 5.*—Broke camp on Deep Creek, going over Mirror Plateau, crossing head of Opal Creek, then to Timothy, then over to head of Pelican Creek. Camped there. Saw no sign of buffalo. Saw about 5 cow elk with calf and 7 bulls. Distance, 17 miles. Weather, clear.

*July 6.*—Left the camp on head of Pelican Creek, went west to a small creek that flows into Broad Creek, down it to near its mouth, thence down Broad Creek about 2 miles, thence northeast to hot springs on Shallow Creek, up Shallow Creek to Wapiti Lake, thence east to camp. Saw signs of 3 buffalo (fresh), 2 on the small creek that flows into Broad Creek and one at Wapiti Lake. Saw 15 elk, all cows. Weather, clear. Distance, 15 miles.

*July 7.*—Left camp on head of Pelican Creek, went down it about 5 miles and made camp. In the afternoon went over to Fern Lake, around it to head of Sour Creek, down it, then followed fresh buffalo trail over ridge to Broad Creek, up it to Fern Lake and on to Tern Lake, from there to camp. Saw one buffalo; jumped 5 buffalo near ford of Broad Creek, following them to Fern Lake, where we saw the one, an old bull, on one of the heads of Sour Creek. Around Ponutpa Springs there were fresh signs of the band I saw there last winter. I think there are 30 buffalo in this country we came through. Saw about 100 elk. Weather, cloudy and rainy. Distance, 20 miles.

*July 8.*—Moved camp to Growler, on Plateau Creek. Leaving camp, went up East Fork of Pelican. Saw where 5 or 6 buffalo wintered near forks of Pelican Creek, but no fresh signs. Saw about 150 elk. Weather, clear. Distance, 14 miles.

*July 9.*—Broke camp and continued down Pelican Creek to the Yellowstone Lake; camped on lake shore about 1 mile from Lake Station. Saw about 100 elk on Pelican, mostly cows with calves, and 16 sand-hill cranes. Weather, clear. Distance, 16 miles.

*July 10.*—Left camp, going down the Yellowstone River to Canyon; camping there. Saw a black bear on north side of river. Weather, clear. Distance, 18 miles.

*July 11.*—Went to Norris. Weather, clear. Distance, 11 miles.

*July 12.*—Went to post. Weather, cloudy and rainy. Distance, 20 miles.

[Fountain Station, 1897.]

*November 12.*—Holman left station at 8 a. m., crossed the Firehole at footbridge west of the station, followed up Sentinel Creek to its source, and returned to station over same route. Saw tracks of deer and elk. Great many beaver in Sentinel Creek. Distance, 14 miles. Object, scouting.

*November 13.*—Burdett left station at 8.30 a. m. Followed the road to the Fountain Geyser, from there to Black Warrior, Great Fountain and Excelsior, from there traveled east following a small stream which flows from a basin about 3 miles from Excelsior Basin. Game, tracks of deer and elk.

*November 15.*—Holman left station at 8 a. m., crossed the Firehole River at wagon bridge which is southwest from the station, followed up Fairy Creek to the falls, and returned to station. Object, to ascertain if any buffalo had crossed going to Hayden Valley. Distance, 9 miles.

*November 16.*—Holman left station at 8.30 a. m., traveling north. Struck 1 mile west of Gibbon Falls. Followed wagon road to Norris and returned to station. Saw tracks of 1 mountain lion and 3 deer. Object, mail matter. Distance, 35 miles.

*November 18.*—Holman left station at 8 a. m.; followed trail to Summit Lake cabin, traveled along the west side of Bear Park, and returned to station. Distance, 30 miles.

*November 19.*—Holman and Burdett left station, 8 a. m., and followed trail to Bear Park; they returned to station, blazing the trail on return trip. Distance, 24 miles. Object, to blaze the trail.

*November 23.*—Halmon and Stitham left station at 8 a. m., following the road to Firehole Falls; there one man dismounted and followed down the river to its junction with the Gibbon, the other man followed the road, leading one horse. Saw no sign of beaver below the falls; some beaver signs between the falls and the troop camping grounds.



*November 24.*—Burdett left station 9 a. m.; followed Nez Perce Creek up to the mouth of Magpie; returned to the station over the same route. Distance, 14 miles.

*November 27.*—Holman left station at 9 a. m., mounted; traveled north and struck Gibbon River below the falls, following down the river on the north side to the junction and then followed the road to the station. Saw some bear signs 1 mile from the junction. Distance, 22 miles.

*November 29.*—Stitham left station 9 a. m., mounted, following the old road to Mary's Lake and returning to station by the same route. Distance, 20 miles.

*November 30.*—Burdett left station 9 a. m.; followed wagon road to Norris Station. Object, mail. Distance, 38 miles.

*December 3.*—Holman and Stitham left station at 7 a. m. on skis. Followed the trail to Summit Lake cabin; arrived there at 7 p. m. The following morning, after putting in wood enough to last one night, we left the cabin and traveled around Bear Park, keeping on the west side. From there we traveled northwest to Lower Bear Park; after scouting through it we returned to station. Saw no sign of buffalo; 15 elk near Twin Buttes, 3 deer near Fairy Falls. Distance traveled, 40 miles. Weather, clear.

*December 6.*—Mathieson and Stitham left station at 1 p. m. and followed road to Riverside. Stayed there over night and returned to station. Saw several beaver in Madison River; 175 elk in Madison Canyon. Distance, 34 miles. Weather, stormy.

*December 10.*—Holman and Mathieson left station on skis at 8 a. m. Followed up Nez Perce Creek to Magpie Creek and returned to station. Object, scouting. Distance, 14 miles. Weather, cloudy.

*December 11.*—Holman and Stitham left station, 8 a. m., on skis. Crossed the Firehole River on the footbridge west of the station; followed up Sentinel Creek to the head of the Queens Laundry and returned to station. Distance, 8 miles. Weather, snowy. Saw tracks of elk.

*December 12.*—Holman left station at 9 a. m., mounted. Followed the road to Excelsior Geyser. From there traveled southeast to a point 5 miles from Excelsior and returned to station. No sign of game. Distance, 20 miles. Weather, clear.

*December 13.*—Holman left station at 8 a. m. Traveled southeast to Juniper Creek and returned to station. No sign of game. Distance, 14 miles. Weather, cloudy.

*December 14.*—Burdett and Mathieson left station at 1 p. m. Traveled southwest to Fairy Falls and returned to station. Transportation, skis. Distance, 8 miles. Weather, clear.

*December 17.*—Mathieson and Stitham left station 8 a. m., followed old road half-way to Riverside and returned to station. No game. Distance, 17 miles. Weather, cloudy.

*December 18.*—Holman left station at 8 a. m., mounted. Traveled east to Canyon Creek and returned to station. Distance, 18 miles. No game. Weather, cloudy.

*December 21.*—Mathieson and Stitham left station, 9 a. m., on skis, followed Nez Perce Creek to foot of Mary's Mountain, and returned to station. Distance, 20 miles. No game. Weather, cloudy.

*December 22.*—Holman and Stitham left station, 9 a. m., crossed the Firehole River at the footbridge, followed up Sentinel Creek to its source, and returned to station. No game. Distance, 15 miles. Weather, clear.

*December 24.*—Burdett and Mathieson left station, 1 a. m. Traveled southeast and struck a deep canyon about 5 miles from the station, followed the canyon to the Black Warrior, and followed the wagon road to the station. Saw tracks of 15 elk. Distance, 15 miles. Weather, clear.

*December 27.*—Mathieson and Stitham left station, 7 a. m.; followed the blazed trail to Summit Lake cabin, stopped there one night, and returned to station. No game. Distance, 30 miles. Stormy scouting.

*December 29.*—Holman, Mathieson, and Stitham worked at the ice house.

*December 30.*—Burdett and Stitham left station, 12 m.; followed the Firehole to the falls, and returned to station. Saw some bear tracks across the road. Distance, 10 miles. Weather, clear.

[1898.]

Holman and 4 men worked at ice house from January 3 to January 6, putting up about 20 tons of ice.

*January 6.*—Holman, Burdett, P., and Burdett, C., left station, 8.15 a. m. Followed the old road to Riverside. Stopped there one night. Holman and Burdett, P., returned to station. Object of trip to accompany Burdett, C., to his station. Distance, 34 miles. Weather, snowing. Saw tracks of 75 elk in Madison Canyon.

*January 8.*—Mathieson and Stitham left 9 a. m., following down the Firehole to the falls, and returned to station. Saw 25 geese and 40 ducks. Weather, stormy.

*January 10.*—Holman and 3 men worked at ice house.

*January 12.*—Burdett, Mathieson, and Stitham left station at 9 a. m., crossed the

Firehole River at the first bridge, followed up Sentinel Creek to the beaver dams, and returned to station. Saw 12 geese, 25 ducks, and 1 swan. Distance, 10 miles.

*January 13.*—Holman, Burdett, and Mathieson left station 8.30 a. m.; followed Nez Perce Creek to the foot of Mary's Mountain, and returned to station. Saw 1 beaver, 3 elk, and 19 ducks. Tracks of 50 elk. Distance, 20 miles. Weather, snowy.

*January 14.*—Holman and Stitham left station at 11 a. m.; followed the road to Canyon Creek, and returned to station. Saw 12 ducks. Lieutenant Lindsley and Scout Morrison arrived from Riverside.

*January 15.*—Mathieson left the station at 8 a. m. and followed the telegraph line to Canyon Creek, where he met Private Holt, who was ordered here from Norris, and returned to station. Distance, 18 miles. Weather, clear.

*January 16.*—Lieutenant Lindsley and detachment left for Snake River via Upper Basin and Thumb, taking 2 men, mounted, from here, as far as the Upper Basin, with rations.

*January 17.*—Burdett and Mathieson returned from Upper Basin. Saw 50 ducks on Firehole River. Weather, cloudy.

*January 18.*—Mathieson and Syberty left at 8 a. m. on skis; traveled northeast, and struck Magpie Creek about 4 miles from its mouth; followed this stream to its junction with the Nez Perce, thence west along the Nez Perce to the station. Saw 3 elk. Weather, clear; distance, 18 miles.

*January 19.*—Holman and Burdett left station 9 a. m. on skis; followed the road to Norris Station, remained there one day, and returned to station on the 21st. Object, mail.

*January 24.*—Holman, Burdett, and Mathieson left station at 7 a. m. and followed the road to the Upper Basin; stayed there one night, and left the next day at 7 a. m.; scouted through the Black Sand and Biscuit basins, and returned to station. Weather, clear; distance traveled, about 30 miles.

*January 28.*—Holman, Burdett, and Syberty left station 1 p. m.; crossed the Firehole River at the footbridge and followed Sentinel Creek to the Queen's Laundry, thence south to Twin Buttes, thence east to the river, and followed the river to the station. Distance, 10 miles. One hundred ducks in the river. Weather, clear.

*January 31.*—Holman, Burdett, and Mathieson left station at 8 a. m.; followed up Nez Perce Creek to the mouth of Juniper Creek, and then followed up Juniper to the hot springs, thence east to Spruce Creek and down Spruce to its junction with the Nez Perce, thence west along the Nez Perce to the station. Saw tracks of 10 elk and some beaver signs in Spruce Creek; also saw a great number of geese, ducks and fishes in and along the streams. Distance traveled, about 20 miles. Weather, fine.

*February 2.*—Burdett and Syberty left station at 8 a. m.; followed the road to Canyon Creek, and returned to station. Object, breaking trail.

*February 3.*—Burdett and Syberty left station at 7 a. m. on skis; followed the old road to the foot of Mary's Mountain, and returned to station. Object, to meet Holt and Stitham, who were coming in from Mud Geyser. Weather, snowy.

*February 6.*—Holman, Burdett, and Syberty left station at 9 a. m. mounted; followed the road to Madison Canyon, and returned. Saw tracks of 100 elk. Distance, 16 miles. Weather, stormy.

*February 7.*—Stitham and Syberty left station at 8 a. m.; followed road to Canyon Creek, and returned to station. Object, breaking trail. Cloudy.

*February 8.*—Holman, Burdett, and Syberty left station at 8 a. m.; followed up Nez Perce Creek to the mouth of Magpie Creek, thence north along Magpie to a point 5 miles from its mouth, and returned to station over the same route. Saw tracks of 5 elk. Distance, 20 miles. Object, scouting.

*February 9.*—Holman, Burdett, and Syberty left station at 9 a. m., following the old road to Mary's Lake. After scouting along the foot of the mountain two hours, we returned to the station. Saw 20 elk. Distance, 24 miles. Cloudy.

*February 10.*—Holman, Burdett, and Syberty left station at 7 a. m. on skis; followed up Nez Perce Creek to the mouth of Spruce Creek, thence up Spruce Creek to the hot springs, and returned to station. Saw tracks of 10 elk. Distance, 24 miles. Weather, fine.

*February 14.*—Holman, Burdett, and Stitham left station at 7 a. m.; followed the trail to Summit Lake cabin, arrived there at 5 p. m. Saw 1 swan and tracks of 5 elk between the station and Twin Buttes. Distance, 15 miles. Weather, stormy.

*February 15.*—Left Summit Lake cabin at 9 a. m.; traveled south to Summit Lake, thence west to hot springs and then back to the lake, thence south to hot springs, 1 mile south of the lake, and then followed the trail back to the cabin. Saw tracks of 1 mountain lion. Distance, 10 miles. Weather, stormy.

*February 16.*—Left the cabin at 9 a. m., went northwest to Lower Bear Park, from here followed the trail to the station. Saw tracks of 10 elk near Twin Buttes. Distance, 15 miles. Weather, snowy. Object, scouting.

*February 22.*—Holman, Burdette, and Syberty left station at 9 a. m. with five day's



rations; followed the road to the Upper Basin; stayed there until the following morning; left there at 8 o'clock; followed the road to the Lone Star Geyser; there we took off our skis and waded the Firehole River and followed it to a point about 3 miles north of Madison Lake. Here we left the river and traveled southeast and struck Shoshone Creek 2 or 3 miles from the Shoshone Geyser Basin, where we made camp. Left Shoshone Creek the following morning; followed down the creek to the lake, and followed around on the side of the lake. Made camp on Heron Creek; left Heron Creek the next morning at daylight and struck the main road near the 9-mile post; followed it to the Upper Basin station and stayed there for the night. Left the Upper Basin the next morning and followed the road to the station. Saw 10 elk near Twin Buttes, tracks of 2 elk near the station. Saw no sign of game in Shoshone Basin. Distance traveled, about 67 miles. Weather, cloudy and snowing.

*March 2.*—Burdett, Mathieson, and Syberty left station at 9 a. m.; followed up the Firehole River to the Biscuit Basin and returned to station via Great Fountain Geyser. Saw tracks of 15 elk. Weather, clear.

*March 3.*—Holman left station mounted, and followed up Nez Perce Creek to the foot of Mary's Mountain and returned to station. Saw tracks of 25 elk near the mountain. Saw 25 elk 2 miles from the station.

*March 4.*—Burdett, Mathieson, and Syberty left station at 8 a. m. and followed the road to the junction of the Firehole and Gibbon rivers; from there, followed up the Gibbon to a point about 5 miles from the falls and returned to station over the same route. Saw 200 elk near the junction of the rivers, and saw tracks of a great many elk. Distance, 24 miles.

*March 10.*—Holman, Burdett, and Mathieson left station at 8 a. m.; followed the road to Norris, remained there one day, and left Norris on the morning of the 12th; followed the wagon road to the post; remained at the post two days to draw clothing. Holman and Burdett left the post on the morning of the 15th; followed the road to Crystal Springs, stopped there one night; on the following day followed the road to Norris; left Norris next morning and followed the road to the station. Distance traveled, 78 miles. Object, to accompany Mathieson to the post on account of expiration of his term of service.

*March 19.*—Holman and Syberty left station on skis; followed the road to the Upper Basin, stopped there overnight, and returned to station via Biscuit Basin. No game. Weather, snowing.

*March 28.*—Left station with one man, crossed the river on the foot bridge, followed up Sentinel Creek to the head of the Queen's Laundry, and returned to station.

*March 26.*—Holman and Syberty left station at 7 a. m.; followed the road to the junction of the Firehole and Gibbon rivers; from there followed up on the north side of Gibbon River to near the falls; crossed the river and followed the road to the 9-mile post from the hotel; left the road there, traveled south and struck the telegraph line and followed it to the station. Saw 15 elk along the Gibbon River. Saw tracks of 250 elk. Distance traveled, 22 miles. Weather, snowing.

*March 29.*—Holman, Stitham, and Syberty left at 6.30 a. m.; followed up Nez Perce Creek to the foot of Mary's Mountain; from there followed up a small stream that flows southward along the mountain to a point about 3 miles from its mouth; thence west to Magpie Creek, and then down Magpie to the road and followed the road to the station. Saw 1 elk and tracks of 15. Some fresh beaver signs in a small stream near the mountain. Distance traveled, 20 miles. Weather, fine. Object, scouting.

*March 30.*—Holman, Stitham, and Syberty left station at 7 a. m.; traveled southeast and came to a deep canyon about 4 miles from the station; followed down the canyon to the Black Warrior; from there traveled around the Great Fountain and near to the Excelsior, and followed the road to the station. Saw tracks of 3 elk near the station. Saw a stray horse at the Black Warrior. Distance, 12 miles. Weather, snowy.

*April 2.*—Stitham and Syberty left station 6 a. m.; followed the road to Norris station; there one night and returned to station. Object, mail.

*April 5.*—Holman, Stitham, and Syberty left station at 6.15 a. m.; followed up Nez Perce Creek to Spruce Creek, thence up Spruce to the hot springs, thence north along the mountain to the old road, thence west to the station. Saw tracks of 25 elk; saw 2 coyotes and 1 red fox. Distance, 24 miles. Weather, fine.

*April 8.*—Holman, Stitham, and Syberty left station at 7 a. m. on skis; traveled southwest to Twin Buttes, thence northwest to the head of the Queen's Laundry, thence east to the station. Saw 7 elk near Twin Buttes; 5 coyotes; tracks of 10 elk. Distance, 10 miles. Weather, fine.

*April 12.*—Stitham and Syberty left station at 4.30 a. m.; followed up the road and struck buffalo trail 4 miles north of Upper Basin; followed trail up for 4 or 5 miles; lost the trail there, and then traveled south to the Upper Basin; stopped there for the night and returned to station the next day. Distance traveled, 30 miles.

*April 14.*—Holman and Syberty left station at 6 a. m., on skis; followed the road

to Madison Canyon; from there followed up the Gibbon River for about 5 miles, then returned to station. Saw 40 elk and tracks of 200, 2 minks and 3 muskrats in the Firehole, 2 coyotes, and 1 red fox. Distance traveled, 24 miles. Weather, fine. From all indications the elk are leaving Madison Canyon and coming into the Lower Basin.

*April 15.*—Stitham and Syberty left station on skis at 5.30 a. m.; followed the road to Canyon Creek and returned to station. Saw tracks of 1 bear. Weather, fine. Distance, 18 miles. Object, mail.

*April 16.*—Holman left station at 8 a. m., mounted; followed Nez Perce Creek to the mountain and then traveled south along Mary's Mountain; struck Spruce Creek about 5 miles from its mouth and followed it to the Nez Perce, then followed it to the station. Saw tracks of 75 elk. Saw 1 red fox and 2 coyotes. Weather, fine. Distance traveled, 22 miles. Object, scouting. A great many fresh beaver signs along the Nez Perce.

*April 17.*—Stitham and Syberty left station, mounted, at 1 p. m.; followed the road to Madison Canyon; there they met Sergeant Bernstein and 2 men from Riverside. They stopped there one hour and returned to station. Saw tracks of 20 elk. Distance traveled, 16 miles. Weather, snowing. Object, to take some packages for Sergeant Bernstein which had been left here.

*April 18.*—Holman and Syberty left station at 8 a. m.; followed the road to first bridge south of the Excelsior; there we left the road and patrolled through the Bis-cuit Basin. Arrived at the Upper Basin at 12 m.; stopped there one hour for lunch, and then followed the road down to the 5-mile post; left the road and followed up a small stream which flows from a hot basin. Patrolled all through the basin and returned to station. Saw tracks of 15 elk. Saw 2 coyotes. Distance traveled, about 35 miles. Weather, fine.

*April 19.*—Stitham and Ornes left station at 12 m. and followed the road to Riverside. Stitham stopped there one night and returned to station. Object of trip, to take Ornes to Riverside. He came out here on skis and was ordered to go to Riverside; as the snow is nearly all gone, he couldn't go on skis, and I sent him down mounted.

*April 21.*—Stitham and Syberty left station, mounted, at 10 a. m.; followed the road to Norris, and arrived there at 3 p. m. Returned to station the following morning. Saw tracks of 23 elk. Saw 1 bear and 3 cnbs. Distance traveled, 38 miles. Weather, snowing. Object, mail.

*April 23.*—Holman left station at 9 a. m.; followed Sentinel Creek to the beaver dams and returned to station. Saw tracks of about 30 elk. Distance traveled, 8 miles. Weather, clear. Object, to look after the beaver.

*April 24.*—Holman left station at 8 a. m., mounted; followed the road to Riverside Station; there three hours and returned to station. Saw 2 coyotes, 3 muskrats, 1 mink, 1 badger, 2 grouse, tracks of 8 elk, and some fresh beaver signs along the Fire-hole. Met Scout Whittaker on the road to Riverside with pack train. Object, a trip to take some mail to Riverside and to get some fresh meat. Distance, 34 miles. Weather, fine.

*April 25.*—Holman left station, dismounted, at 8 a. m.; followed up Nez Perce Creek to Magpie; waded all through the beaver dams and returned to station. Saw 1 coyote, tracks of 30 elk, 3 sand-hill cranes. Distance, 10 miles. Weather, fine.

*April 26.*—Holman left station at 7 a. m., dismounted; traveled southwest to Twin Buttes and returned to station. Saw 39 elk, 2 coyotes, 4 sand-hill cranes, and 1 mink. Distance traveled, 10 miles. Weather, clear and high winds. Object of the trip, to try the skis between Twin Buttes and Summit Lake Cabin.

*April 27.*—Burdett and Stitham left station at 10 a. m. to go to the post, in compliance with verbal orders from the commanding officer.

*April 28.*—Syberty left station at 7 a. m., mounted, following the road to the post; remained there one day and returned to Norris on the 30th. Left Norris on the 1st of May and came back to station by the road. Distance traveled, 78 miles. Object, to get the horses shod.

*May 3.*—Holman left station, mounted; followed the old road half way to Riverside and returned to station. Saw 1 mink, 1 coyote, and tracks of 15 elk. Distance traveled, 16 miles. Weather, cloudy. Object, scouting.

*May 4.*—Holman left station at 9 a. m.; followed the road to the Upper Basin, mounted, and returned to station. Saw 81 elk and 1 coyote, and 4 sand-hill cranes. Distance traveled, 20 miles. Weather, cloudy. Object, scouting.

*May 5.*—Holman left station at 9 a. m., mounted; followed up Nez Perce Creek to the foot of Mary's Mountain and returned to station. Saw 1 coyote, 1 mink, 2 sand-hill cranes, and tracks of 75 elk. Distance traveled, 16 miles. Weather, snowing. Object, scouting.

*May 6.*—Holman left station at 9 a. m., crossed the Firehole River on footbridge west of the station, struck Sentinel Creek near its mouth, followed it to the head of the Queen's Laundry, and returned to station. Saw 1 bear, 1 mink, tracks of 15 elk.



Distance, 8 miles. Weather, clear. Object, scouting. Transportation, dismounted (on foot).

*May 7.*—Holman left station at 7.30 a. m., dismounted, to look for the horses which have strayed away. Struck their trail on the road leading to Norris; followed the trail up to Gibbon Canyon; there I met the lineman. He said he saw 2 horses in Elk Park; followed the road to Elk Park, looked all down the park, but did not find them; followed the road to Norris. Moore went out mounted, and found them near the station. I remained there until 3 p. m. and returned to the station. Distance traveled, about 45 miles. Weather, cloudy. Saw 1 mink in the Gibbon, tracks of 1 bear, and about 7 elk.

*May 8.*—Syberty left station, mounted, at 8 a. m.; followed the road to Norris and returned to station on the 9th. Distance traveled, 38 miles. Weather, clear. Object, mail.

*May 10.*—Holman left station at 7 a. m., followed the road to the post, remained there two days, left the post on the 14th, followed the road to Norris, stayed there one night, and came to the station on the 15th. Distance traveled, 78 miles.

*May 18.*—Holman left station at 9 30 a. m., mounted, for Riverside Station; arrived there at 1 p. m. Saw 15 elk, 7 badgers, 1 coyote, 2 grouse, and tracks of 1 bear. Weather, raining. Left on the morning of the 19th, followed the road to the station; saw numerous geese and 1 pheasant. Distance traveled, 32 miles. Syberty left station at 10 a. m., mounted; followed up the road to the Biscuit Basin, patrolled through the basin and returned to station. Saw 4 blacktail deer, 2 bear, 1 silver fox, and numerous geese. Distance traveled, 15 miles. Weather, snowing and blowing.

*May 20.*—Syberty patrolled road to Madison Canyon and return. Saw 18 antelope near Gibbon Bridge; tracks of 11 elk. Distance traveled, 16 miles. Weather, cloudy and snowing. Holman left station, mounted, at 10 a. m.; followed up Nez Perce Creek to the mouth of Magpie Creek, waded all through the beaver dams, found everything O. K., and returned to station. Saw 1 coyote, 2 minks, 2 grouse, and numerous geese. Distance traveled, 10 miles.

*May 23.*—Holman left station, mounted, at 10 a. m.; crossed the Firehole River at ford, followed up Sentinel Creek to the head of the Queen's Laundry, examined the beaver dams closely, and returned to station. Saw 75 elk, 1 coyote, numerous geese and ducks. Distance traveled, 8 miles. Weather, rainy. Object, scouting.

*May 24.*—Holman and Syberty left station at 7.30 a. m., mounted, following up the road to the Lone Star Geyser. Then we dismounted and tied our horses up and followed up the Firehole River to a point about 3 miles south of the Lone Star. Looked closely for beaver signs, but found no fresh ones. Returned to station at 5.30 p. m. Saw 1 bear, 1 coyote, tracks of 30 or 40 elk. Distance traveled, 34 miles. Weather, rainy. Object, scouting.

*May 25.*—Holman left station, mounted, at 1 p. m.; followed up Nez Perce Creek to the mouth of Magpie and returned to station. Saw tracks of 19 elk and of 1 bear. Distance traveled, 10 miles. Weather, cloudy. Object, scouting.

*May 26.*—Syberty left station at 8 a. m.; followed the road to Riverside, remained there one night and returned to the station the following day. Saw numerous geese. Distance, 32 miles. Weather, cloudy.

*May 29.*—Holman left, mounted, at 1 p. m.; traveled southeast to Twin Buttes and returned to station. Saw 27 elk, 1 coyote, 2 grouse, tracks of 1 bear. Weather, cloudy.

















REPORT

OF THE

ACTING SUPERINTENDENT

OF THE

YELLOWSTONE NATIONAL PARK

TO THE

SECRETARY OF THE INTERIOR.

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1899.

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WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1899.





# REPORT

OF THE

## ACTING SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK.

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OFFICE OF THE SUPERINTENDENT,  
YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., November 1, 1899.*

SIR: I have the honor to submit the following report of the condition of affairs in the Yellowstone National Park from the date of the last report made on September 30, 1898, by Capt. James B. Erwin, Fourth Cavalry. My immediate predecessor as acting superintendent of the park was Capt. W. E. Wilder, Fourth Cavalry, who assumed these duties in March, 1899, and whom I relieved on June 23, 1899, upon his departure for the Philippine Islands. Owing to his short period of service here, no report was made by him.

Early in the year, and before my arrival, the work of improvement in the park was transferred to the Corps of Engineers and placed in charge of Capt. Hiram M. Chittenden. Since that time no funds for this purpose have been disbursed by the acting superintendent, nor has he had anything to do directly with this work, except that important improvements and changes, before being made, are referred to him by the engineer officer in charge, and an agreement between them is arrived at before the work is commenced. The detailed statement of expenditures for all improvements is contained in Captain Chittenden's report to the Chief of Engineers; mine contains only a general statement of what has been done.

I arrived at Fort Yellowstone with Troop M, First Cavalry, June 5, and within two or three days thereafter began relieving the detachments of the Fourth Cavalry stationed throughout the park with men from my own troop. The detachment at Snake River was not relieved until the last of June, owing to the great depth of snow between here and that point.

### DISPOSITION OF TROOPS.

For the purposes of enforcing the regulations relating to the protection of the natural phenomena of the park from injury and mutilation, to the carrying of firearms, protection from forest fires, and care of the animals, fish, and birds of the park, detachments composed of from three to ten enlisted men were stationed during the summer at the following points, each station being in charge of a noncommissioned officer: Norris Geyser Basin, Lower Geyser Basin, Upper Geyser Basin, The Thumb west side of lake, Lake Station near Lake Hotel, Grand Canyon, Soda Butte, Riverside, Snake River.

A system of mounted patrols is kept up daily from each of these stations, covering approximately 180 miles of road, making the distance traveled each day about 360 miles.

The dispositions for the winter have been modified by abandoning the Thumb and Upper Geyser Basin as stations, changing the number of men at others, and it is my intention to establish within a few days a new station about 10 miles northeast of this point, on the east side of the Yellowstone River, to cover what is known as the Hellroaring country.

The stations mentioned vary in distance from this post from 20 miles, the nearest (Norris Basin), to 90 miles, the farthest (Snake River).

#### METHOD OF PROTECTION.

During the summer patrolling is mainly along the roads traveled by tourists. When the hunting season begins, the country covered by scouts from the different stations is that where the game usually ranges and where poaching would most probably be done. Frequent scouts are made from the permanent stations, and to facilitate this a number of snowshoe cabins have been constructed at about a day's trip apart.

In these cabins a small amount of food is placed at the beginning of the winter, together with bedding, fuel, matches, cooking utensils, etc. These cabins and the supplies contained in them are indispensable, as without them trips of only one day at a time, or at most only two or three days, could be made from the permanent stations, as the travel has to be made on skees and it is impracticable, under these circumstances, to carry bedding or supplies; and such short scouts would leave a large part of the game country entirely unprotected.

The territory to be covered by the detachments of the different stations is described in the appendix to this report.

By reference to the map attached hereto, upon which the location of stations and snowshoe cabins is noted, it will be seen what a large extent of country has to be covered.

In addition to the scouting from outlying stations, frequent trips are made from this post by small detachments, accompanied by the civilian scouts. There are from two to four of these parties out continually during the hunting season.

#### TRAVEL IN THE PARK.

The aggregate number of tourists taking the park trip during the season of 1899 (June 15 to September 15) and stopping at the hotels of the Yellowstone Park Association was 3,637. Of this number the Yellowstone National Park Transportation Company carried from the northern entrance of the park 2,997; and Haynes & Humphrey, from western entrance of the reservation, 414; the remainder—226 people—were bicyclers, or those carried in private transportation.

The total number carried through the park by W. W. Wylie and accommodated at his permanent camps was 975. This number is included under head of "Licensed transportation" in the table below. Mr. Wylie also reports a transient custom at his camps during the season amounting to an equivalent of 1,305 persons for one day.

The aggregate number of persons taking the park trip with licensees of personally conducted camping parties was 703, and the aggregate



number traveling with private transportation (camping parties) was 4,264.

The grand total of all visitors to the park during the season was 9,579.

Three thousand one hundred and six tourists took the trip on the Yellowstone Lake during the season, of which 1,526 came into the park with the regular transportation company; 127 with Humphrey & Haynes, and 1,453 who were traveling with camping parties, 916 of whom were with the Wylie Camping Company.

*Comparison of tourist travel, 1895 to 1899.*

|  | 1895. | 1896. | 1897.  | 1898. | 1899. |
|--|-------|-------|--------|-------|-------|
| Camping parties.....                     | 2,594 | 1,797 | 4,454  | 3,437 | 4,264 |
| Licensed transportation.....             | 374   | 454   | 1,354  | 890   | 1,678 |
| Yellowstone Park Association hotels..... | 2,470 | 2,408 | 4,872  | 2,207 | 3,637 |
| Total .....                              | 5,438 | 4,659 | 10,680 | 6,534 | 9,579 |

#### HOTELS.

The hotels in the park are owned and managed by the Yellowstone Park Association. Mr. J. H. Dean is president of the association. They are thoroughly well kept in every respect, and are models of cleanliness and neatness. No complaint as to their management has come to my notice, nor do I believe any could justly be made.

In addition to the hotels, this association maintains lunch stations at Norris Basin, Upper Basin, and at the Thumb.

The system of hotels should include one at the Upper Geyser Basin. The principal geysers are here, and it is perhaps the most interesting and wonderful point along the whole line of tourist travel. At present this place is visited from Fountain Hotel, at Lower Geyser Basin, distant 9 miles, for which a day is required, and involving an extra travel of 18 miles. An opportunity to see some of the greatest geysers in action is often lost to tourists by their not being able to stay over night here.

#### MEANS OF TRANSPORTATION.

These include two regular stage lines, the Yellowstone National Park Transportation Company, under the management of Mr. S. S. Huntley, the Monida and Yellowstone Stage Company, Humphrey & Haynes, proprietors; the Wylie Camping Company; other licensed transportation in connection with camping privileges, and the Yellowstone Lake Boat Company, E. C. Waters, president.

The Yellowstone National Park Transportation Company runs from Cinnabar, Mont., to Mammoth Hot Springs, thence through the park, making the tour in five days.

The Monida and Yellowstone Stage Company runs from Monida on the Oregon Short Line into the park by way of Riverside Station, and the trip includes the same points of interest as the other line. Both of these lines are thoroughly equipped with the best Concord coaches and harness, have good horses, reliable drivers, and give excellent service.

Mr. W. W. Wylie is licensed to use twenty wagons in connection with his permanent camps, and certain other parties are issued licenses for a number of wagons—not to exceed five for each licensee—to do a

movable camping business. The names of these licensees and the number of wagons so employed are included in the appendix. The teams, vehicles, and drivers employed by Mr. Wylie and the other licensees were adequate for the purpose, and so far as I know gave general satisfaction.

The Yellowstone Lake Boat Company has one steamboat on the lake and makes daily trips from the Thumb to the Lake Hotel, connecting at the Thumb with the stage line coming from the Fountain Hotel and affording such tourists as desire it an opportunity to make the trip from the Thumb to the Lake Hotel by water and obtain a view of the lake. The equipment and management of this boat is satisfactory in every respect.

#### PERMANENT CAMPS.

These are maintained by Mr. Wylie at Appollinaris Spring, Upper Geyser Basin, the Lake, and Grand Canyon, with two lunch stations—one between Appollinaris Spring and Upper Geyser Basin, the other at the Thumb.

That there is a demand for this kind of entertainment is fully indicated by the large number of tourists availing themselves of it during the present season. Inspections of these camps showed them to be comfortable, clean, and well kept, with more conveniences about them than is usually found in camp life.

It is probable that, for sanitary reasons, their locations may have to be changed from time to time.

#### FOREST FIRES.

There have been no fires within the limits of the park during the present year. Notices containing the precautions to guard against fire are posted throughout the park and at all places suitable for camping. As an additional precaution, mounted patrols examine all camps on their line of travel after they are vacated to see that camp fires are extinguished. In a few instances fires have been found in deserted camps, and on two occasions the parties who left them were pursued, arrested, and brought before the United States commissioner for trial.

#### FOREST RESERVES.

I recommend that the necessary legislation be enacted to make the forest reserve bordering on the southern limits of the park a part of the park, and bring it under the provisions of the national park protective act. This is necessary for the better protection of the game in the park. As the matter now stands the superintendent has no authority to prevent hunting in this strip, except when it is done in violation of the game laws of Wyoming.

#### UNITED STATES COMMISSIONER.

The statement of cases tried for violations of the park regulations before Judge John W. Meldrum, United States commissioner, will be found in the appendix.

#### WILD ANIMALS.

*Antelope.*—It is believed they have increased within the last two years. At this season they are nearly all within a few miles of this



post, on the slopes of the foothills where there is little or no snow. About 600 can be seen here nearly every day. There are probably not more than 700 or 800 in the park. It is with the greatest difficulty that they are preserved at all, as they are constantly trying to get across the line and outside of the park limits, where there are numerous hunters watching for an opportunity to shoot them. It requires one of the civilian scouts and two soldiers to be permanently posted along this part of the line to drive them back. As they wander across in the nighttime, these must be on the alert before daybreak to prevent them from being killed. A fence about 4 miles long on this boundary of the park would solve the problem of their protection.

*Bear*.—These are numerous and are without doubt increasing. They are to be seen about the hotels in numbers and have given much trouble at these places by breaking into buildings in search of food. It will undoubtedly be necessary to kill some of them to prevent such destruction.

*Buffalo*.—It is not known how many there are left or whether or not they are increasing. I shall try and find out this winter as to their number. One of the scouts saw twenty-six last spring, and signs were seen of others. It is probable that there are fifty or more.

*Coyotes*.—There are many of these, especially where the antelope are ranging. They undoubtedly kill many antelope, as well as young elk and deer. The only means of getting rid of them is by poison. This method will be tried during the winter.

*Deer*.—There are many of them in the park. They can be seen at this season all about the post, and they frequently come on the parade. They are increasing.

*Elk*.—Are more numerous than any other animal in the park. The scouts frequently report seeing herds of a thousand or more. While a great many died last winter, due to the unusually cold weather, yet they are without doubt rapidly increasing. Some of the scouts, from the number of dead ones seen by them, estimate that as many as 5,000 died during the past winter. It is estimated that there are at present from 35,000 to 60,000 in the park.

*Moose*.—Little is known as to the number of these animals, but there are still quite a number left and they will probably increase now, owing to the stringent laws against killing them in Wyoming. They range principally along the southern line of the park in Wyoming.

*Sheep*.—There are not many in the park, and it is not known as to whether or not they are increasing. Most of them are near here on Mount Everts, and can be seen any day.

*Beaver*.—There are many of these in the park and they are believed to be increasing.

*Mountain lions*.—Are numerous and destroy much game. Several were killed last winter where the mountain sheep range.

#### FISH.

Nearly all streams abound in trout of different varieties. Vast quantities of them are caught during the season without apparently diminishing their number, except in some of the smaller streams. There is probably no place on the face of the earth where the angler can meet with such success as in the Yellowstone Park.

## ROAD WORK.

The early spring work begun with repairs in the road between here and Gardiner. This part of the road was improved by decreasing grades, straightening curves, and erecting guard rails along a precipitous hillside.

Early in June small road crews were sent along the roads to open up the route for tourist travel. It was necessary for them to shovel out the snow nearly the whole distance. The road over the Continental Divide was not opened and ready for travel until June 22, and it was July 5 before the snow finally disappeared from this part of the road.

High water carried away part of the bridge over east fork of the Yellowstone, cutting off my station at Soda Butte. This was promptly repaired.

The snowfall during the past winter was the heaviest ever known in the history of the park, and the consequent high water in the spring called for unusual repairs to roads.

The most important work done was the construction of a new road of about 3 miles between the Golden Gate and Mammoth Hot Springs. The ascent to the Golden Gate has always been one of the heaviest in the park, and to avoid this Captain Chittenden projected this road. It is the best piece of road building in the park, and makes the travel from here to Golden Gate comparatively easy, besides bringing into view many picturesque objects that could not be seen from the old road.

It is intended next summer to abandon the dangerous piece of road on the east side of the Gardiner River and construct a road on the opposite bank. This has been surveyed and a small part of it built, including a steel bridge with concrete abutments, the first of the kind in the park.

Preliminary surveys have been made, locating proposed roads from Mammoth Hot Springs to Yancey's; from the Grand Canyon to Yancey's over Mount Washburn; Yancey's to Soda Butte; Gibbon Canyon to Madison River; Upper Basin to Lone Star Geyser, and Grand Canyon to Norris.

*Statement of funds for improvement and protection of Yellowstone National Park, for fiscal year ending June 30, 1899, covering expenditures and transfers from December 1, 1898, to June 30, 1899.*

Balance on hand November 30, 1898, as per report of acting superintendent,  
dated November 22, 1898 ..... \$2, 240. 44

## EXPENDED.

|   |                    |
|---|--------------------|
| Salaries of scouts .....  | \$1, 030. 00       |
| Salary of watchman and clerk for acting superintendent .....  | 475. 00            |
| Necessary repairs to roads and bridges between Mammoth Hot Springs and Gardiner (to May 1) .....                                      | 470. 54            |
| Labor and material finishing profile of proposed new road over south side of Mount Washburn .....                                     | 6. 08              |
| Paid for hay for animals in captivity .....   | 80. 46             |
| For mounting maps of park on linen .....  | 4. 15              |
| Transferred to Capt. Hiram M. Chittenden, Corps of Engineers, Special Orders, No. 70, Adjutant-General's Office, March 25, 1899 ..... | 154. 21            |
| Balance transferred to Treasurer United States .....  | 20. 00             |
|   | <hr/> \$2, 240. 44 |

NOTE.—Actual amount transferred to Captain Chittenden was \$1,581.33, but of this amount, \$1,427.12 was to pay outstanding liabilities as per list furnished him.



*Statement of funds allowed acting superintendent from appropriation for improvement and protection of Yellowstone National Park, fiscal year 1900.*

|   |              |                  |
|---|--------------|------------------|
| Amount allowed, as per agreement between Capt. Hiram M. Chittenden, Corps of Engineers, U. S. A., and acting superintendent Yellowstone National Park, dated May 29, 1899, and approved by Secretary of War June 12, 1899 ..... |              | \$4, 500. 00     |
| Allotted as follows:  |              |                  |
| Scouts and detectives .....   | \$3, 000. 00 |                  |
| Clerk for acting superintendent.....  | 1, 000. 00   |                  |
| Contingencies.....  | 500. 00      |                  |
|   |              | <hr/> 4, 500. 00 |
|   |              | <hr/>            |

## EXPENDITURES, JULY, AUGUST, AND SEPTEMBER, 1899.

|  |            |
|--|------------|
| Salaries of scouts .....                         | \$487. 50  |
| Salary of clerk .....                            | 250. 00    |
| Paid for hay for elk and deer in captivity ..... | 15. 70     |
|  | <hr/>      |
| Total .....                                      | 753. 20    |
| Balance .....                                    | 3, 746. 80 |
|  | <hr/>      |
| Total .....                                      | 4, 500. 00 |

*Estimate of funds needed for protection for the coming fiscal year.*

Estimates for this purpose were furnished your office on September 12, and are repeated here for convenient reference.

|  |              |
|--|--------------|
| For scouts and detectives .....  | \$3, 000. 00 |
| For one clerk, office of superintendent, one year.....                                     | 1, 000. 00   |
| Forty tons of hay, at \$14.....  | 560. 00      |
| Contingencies .....  | 500. 00      |
| Two new stations for troops at detached points .....                                       | 1, 912. 50   |
| Four and one-half miles of fence along north boundary between this post and Gardiner ..... | 3, 250. 00   |
| Station house and gate at northern entrance to park .....                                  | 1, 200. 00   |
| Surveying and monumenting boundaries of park, 59 miles, at \$75.....                       | 4, 425. 00   |

The first two items provide for payment of regular scouts and detectives and a clerk for the office of the superintendent. The hay is for elk and deer in captivity. The amount for contingencies is for necessary expenditures that can not be foreseen.

The remaining items have been included in Captain Chittenden's estimates to the Chief of Engineers.

If the appropriation is made for the new stations, it is my intention to establish one in the extreme northwestern corner of the park and the other in the southwest corner. Under the present conditions these sections where there is much game must be protected by the detachments from Riverside and Snake River, respectively, which are too distant to do this efficiently.

The fence estimated for is absolutely necessary for the protection of the antelope and mountain sheep that range during the winter along this part of the north boundary, and will also serve to keep out the large bands of horses and cattle that cross over the line and eat down the grass on the feeding ground of this game. It is next to impossible to keep the antelope from straying across the line, and, as has already been stated, it requires a special detail for this purpose. This matter and the necessity for an entrance gate and station house at the north entrance of the park were fully set forth in the report of Captain Wilder, made to the Department on April 19.

*Marking boundaries.*—There still remains about 59 miles of the park boundary along the north and west that should be marked. It is very important that this should be done, in the interest of protection and to prevent trespasses of other kinds. It frequently happens when hunters are arrested by the scouts within what is understood to be the park lines, the contention is made by them that they were not in the park. It is necessary to testify under oath as to the matter before the commissioner, and when there is any doubt about it of course these witnesses can not so testify, and while it is reasonably certain that the regulations of the park have been violated, the guilty ones escape. As poaching is usually done near the border, this question is liable to come up at any time.

#### PROJECTED IMPROVEMENTS.

The following estimates for improvements have been prepared by Captain Chittenden and included in his report to the Chief of Engineers.

|   |          |
|---|----------|
| New road in Gardiner Canyon, including three steel bridges.....   | \$10,000 |
| Road through Golden Gate Canyon, including a new steel bridge to replace wooden bridge around cliff, and widening road along cliff, the latter all solid rock.....                    | 15,000   |
| Raising 3 miles of road in Gibbon Canyon and cutting out 1 mile of dangerous grades, also opening 4 miles of new road down the Gibbon to connect with western approach .....          | 16,000   |
| Completion of 8 miles of road near Fountain Hotel .....   | 8,000    |
| Completion of southern approach along Snake River, 20 miles .....   | 20,000   |
| New road from West Thumb to Natural Bridge, cutting out present line around lake shore, 8 miles .....   | 16,000   |
| Surfacing new road from Lake Hotel to Grand Canyon, 15 miles.....   | 15,000   |
| New bridge across the Yellowstone near the falls.....   | 20,000   |
| New road down right bank of Grand Canyon, 3 miles.....  | 6,000    |
| New road near Grand Canyon, to cut out dangerous hills.....   | 5,000    |
| New road, Canyon to Norris, 10 miles.....   | 20,000   |
| New road, Grand Canyon, via Tower Falls, to Mammoth Hot Springs, 36 miles.....  | 72,000   |
| New bridge over Yellowstone near Tower Falls.....   | 10,000   |
| New bridge over Lamar River.....  | 5,000    |
| Completion of east approach, 15 miles.....  | 15,000   |
| New plant .....   | 5,000    |
| New office and other buildings .....  | 5,000    |
| Current repairs and maintenance for season of 1900 .....  | 10,000   |
| New bridges at various points (six needed at once) .....  | 12,000   |
| Office, transportation, and miscellaneous expenses.....   | 10,000   |
| There should also be added for clearing out and rendering more easily passable the numerous trails throughout the park, which are essential to its proper police and protection ..... | 5,000    |

---

Total for completion of project in a single season.....\$300,000

I have gone over these estimates very carefully with Captain Chittenden and fully approve of them. This work will have to be done at some time, and Captain Chittenden estimates that it would cost about one-half to have one appropriation cover the whole. The amount appears large when compared with the usual annual appropriation, but in the end it would be a measure of economy for the Government to appropriate all at once, so that a systematic plan of work might be adopted and carried out. The result would be to make travel easy and safe, and bring almost every point of interest of the park in the line of tourist travel. After this work is completed the cost of maintenance would probably not amount to more than half of the present



annual appropriation, and a part of this could be used for macadamizing a few miles of road each year.

Whether the total amount required for this work is obtained or not, there are certain items for which the Department should make every effort to get appropriations. The more important are as follows:

Fifteen thousand dollars for new steel bridge in Golden Gate Canyon. This is absolutely necessary for safety. I do not consider the present bridge safe for another season's travel, and if upon careful examination in the spring it is not found to be so I shall have to prohibit any passage across it. This would stop all travel in the park as there is no other way of getting through. This bridge is of wood, fastened to the side of a precipitous cliff with wooden supports below, and has been in use several years.

Sixteen thousand dollars for road in Gardiner Canyon. This road runs at the base of a mountain, the side of which, next to the road, is composed of loose earth and an easily disintegrated stone that from time to time break away and fall into the road making travel along it at certain seasons dangerous. This change should be made in the interest of safety.

Twenty thousand dollars for new road from Grand Canyon to Norris. This road should be changed to avoid an extremely steep declivity with an abrupt turn at the foot which makes it dangerous.

Five thousand dollars for bridge over Lamar River. The old bridge here washes out every spring, cutting off the Soda Butte Station and isolating an important part of the park.

Twenty thousand dollars for new bridge across the Yellowstone near the upper falls. This bridge should be built both as a means of protection and for the opening up of the east side of the river to tourists. The means of getting to the other side, where much of the game ranges, is to cross on the ice in the winter and to ford it at shallow points in the summer. It is late in the winter before this can be done on the ice. During high water it is impossible to ford anywhere, and it is late in the summer and at only a few points where this can be done at all.

The park is unquestionably fulfilling the purposes for which it was set aside by the Government. It has been visited by about 10,000 tourists this year from every part of the United States and from foreign countries. As its natural wonders and picturesque beauties become more widely known these numbers will undoubtedly increase. As a game preserve it is probably the greatest in the world, and as the game disappears from the country surrounding it and other points of the West its value will be conspicuous as the breeding ground and refuge of the wild fauna of our country.

To properly protect this extensive area and enforce compliance with the many regulations for its government requires more troops than the number now stationed here, but it is well understood that under the present conditions no more are available for this duty. The majority of the men of the command were newly enlisted and had hardly passed the recruit stage at the time they were sent out to the different stations. It is but just to them to state that the important duties they were charged with have been performed with commendable prudence and efficiency, and it is believed that the care and condition of the park this season will compare favorably with those at any period of its history.

The work of the civilian scouts for the past season, as shown by the diaries kept by them and on file in my office, is a story of a vast amount of difficult country traversed under all conditions of weather, involving much labor and in some cases actual hardship. Their services have been most valuable in the protection of game.

Very respectfully,

OSCAR J. BROWN,

*Captain, First Cavalry, Acting Superintendent.*

The SECRETARY OF THE INTERIOR,  
Washington, D. C.

#### APPENDIX A.

### INSTRUCTIONS FOR WINTER PATROLLING.

#### NORRIS STATION.

East: Up Gibbon River to Grebe Lake.

Northwest: To Christmas Tree Park.

South: To Canyon Creek.

#### FOUNTAIN STATION.

East: To Nez Perce Creek and scout foothills of Marys Mountain.

Southwest: Around Twin Buttes and Fairy Falls.

North: To Gibbon Falls, meeting scouts from Norris.

South: By the way of Upper Geyser Basin to Shoshone Lake by the way of Lone Star Geyser.

#### RIVERSIDE STATION.

North: Along west boundary as far as Grayling Creek; up Grayling Creek to the vicinity of Three River Peaks; along foothills by White Peaks; down Maple Creek and Duck Creek to Cougar Creek, thence to station.

South: Over Madison Plateau for a distance of 10 or 12 miles, thence back to station. Patrol up the Madison River to forks of Gibbon and Madison.

#### SNAKE RIVER STATION.

West: To Fall River Meadows; to Boundary Creek Cabin, taking in cabins at Proposition Creek and Bartlett Cabin.

East: As far as Snowshoe Cabin, on Coulter Creek; thence north to Heart Lake; around through Heart Lake Geyser Basin to Lewis River Cabin; thence south to home station.

#### LAKE STATION.

East: Across the Yellowstone to Astringent Creek Cabin; thence south by Turbid Lake, along east side of lake to Snowshoe Cabin, at Park Point on the lake; along southeast arm of lake to cabin on Trappers Creek, scouting Upper Yellowstone country from this point to boundary.

#### CANYON STATION.

South: To Mud Geyser; thence west to Marys Lake and to Trout Creek Cabin, returning by Alum Creek.

East: Across Yellowstone River, through the Sour Creek country to Fern and White lakes and the country about the hot springs near these lakes; thence to Astringent Creek Cabin, and along Pelican Creek to Lake Station; thence to home station.

#### SODA BUTTE STATION.

North: Soda Butte Creek and Pebble Creek to park boundary.

South: Up Lamar River to Willow Creek Cabin, scouting up Miller and Cache creeks to east boundary of park. Mirror Plateau to December 1.



Northwest: Slough Creek and Buffalo Fork of Slough Creek to boundary line, thence west along northern boundary to Hellroaring Creek Cabin.

This is an outline of the territory to be covered by the detachments at the respective stations, but whenever necessary these limits may be extended.

Scouting parties will avoid the regular trails as far as possible; will not habitually go in the same direction, and will vary this work as much as the character of the country will allow.

OSCAR J. BROWN,  
*Captain, First Cavalry, Acting Superintendent.*

#### APPENDIX B.

##### *List of parties holding license to conduct camping business.*

| No. | Name.                          | Residence.            | Number of vehicles. | Duration.                |
|-----|--------------------------------|-----------------------|---------------------|--------------------------|
| 1   | Marshall Bros.....             | Livingston, Mont..... | 1                   | June 1 to Oct. 1, 1899.  |
| 2   | A. W. Chadbourne.....          | Cinnabar, Mont.....   | 4                   | Do.                      |
| 3   | C. C. Chadbourne.....          | do.....               | 3                   | Do.                      |
| 4   | Erwin Clark Sandy.....         | do.....               | 3                   | Do.                      |
| 5   | C. T. Smith.....               | do.....               | 3                   | Do.                      |
| 6   | Frank Halem.....               | do.....               | 2                   | Do.                      |
| 7   | Adam Gassert.....              | do.....               | 3                   | Do.                      |
| 8   | W. J. Kupper.....              | do.....               | 2                   | Do.                      |
| 9   | Henry George.....              | do.....               | 3                   | Do.                      |
| 10  | J. W. Taylor.....              | do.....               | 3                   | Do.                      |
| 11  | H. M. Gore.....                | do.....               | 3                   | Do.                      |
| 12  | Capt. Amos Shaw.....           | Livingston, Mont..... | 5                   | Do.                      |
| 13  | Marshall Bros.....             | do.....               | 4                   | June 15 to Oct. 1, 1899. |
| 14  | R. H. Menefee.....             | Cinnabar, Mont.....   | 2                   | Do.                      |
| 15  | Alfred Lycan.....              | Bozeman, Mont.....    | 19                  | June 24 to Oct. 1, 1899. |
| 16  | W. S. Dixon.....               | Livingston, Mont..... | 1                   | July 5 to Oct. 1, 1899.  |
| 17  | B. S. Thresher.....            | Butte, Mont.....      | 3                   | July 7 to Oct. 1, 1899.  |
| 18  | J. V. & S. S. Blankenship..... | Bozeman, Mont.....    | 17                  | July 8 to Oct. 1, 1899.  |
| 19  | P. B. Cobb.....                | do.....               | 4                   | July 28 to Oct. 1, 1899. |
| 20  | Albert Hill.....               | Wells, Wyo.....       | 3                   | Aug. 1 to Oct. 1, 1899.  |
| 21  | C. C. Chadbourne.....          | Cinnabar, Mont.....   | 1                   | Aug. 4 to Oct. 1, 1899.  |
| 22  | Ed. Staley.....                | Lake, Idaho.....      | 3                   | Aug. 7 to Oct. 1, 1899.  |
| 23  | John Dewing.....               | Gardiner, Mont.....   | 2                   | Aug. 12 to Oct. 1, 1899. |
| 24  | Frank Sebastian.....           | Elk, Wyo.....         | 1                   | Aug. 18 to Oct. 1, 1899. |
| 25  | B. D. Sheffield.....           | Livingston, Mont..... | 2                   | Aug. 22 to Oct. 1, 1899. |
| 26  | Geo. W. Reese.....             | Cinnabar, Mont.....   | 1                   | Aug. 21 to Oct. 1, 1899. |

<sup>1</sup> All in excess of five wagons were for baggage.

#### APPENDIX D.

STATEMENT OF CASES BROUGHT BEFORE HON. JOHN W. MELDRUM, UNITED STATES COMMISSIONER, SINCE THE 1ST DAY OF SEPTEMBER, 1898.

*September 29.*—United States *v.* Horace Stockwell. Charge: Violation of the provisions of the act of Congress approved May 7, 1894, "to protect the birds and animals in Yellowstone National Park, and to punish crimes in said park, and for other purposes." Defendant ordered to pay costs.

*December 2.*—United States *v.* Alexander Stewart. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Defendant ordered to pay a fine of \$10.

*December 13.*—United States *v.* Henry Jenkins and Charles Steed. Charge: Violation of the provisions of the act of Congress approved May 7, 1894.

The original warrant herein was returned on the 17th day of January, 1899, "not served." Defendants not found within the district of Wyoming. The papers in the case have been transmitted to the United States attorney for the district of Idaho, with request that he cause such action to be taken as will place the defendants within the jurisdiction of the authorities of the district of Wyoming. No report of arrest has yet been received from the authorities of the district of Idaho.

*February 1.*—United States *v.* A. K. Crawford. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Defendant ordered to pay a fine of \$50 and costs.

The complaint in this case was entered on the 12th day of July, 1898, and original warrant returned "not served." Defendant was subsequently arrested within the district of Montana, and was brought before the commissioner, by virtue of an order of removal issued by the Hon. Hiram Knowles, United States judge for said district.

*June 7.*—United States *v.* Margaret Gleason Trischman. Charge: Murder. Defendant held to United States district court for the district of Wyoming.

*July 12.*—United States *v.* John Jacobson. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Defendant ordered to pay a fine of \$10.

*July 13.*—United States *v.* Thomas Murchie. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Defendant committed to post guard-house, Fort Yellowstone, Wyo., for the period of twenty days.

*August 26.*—United States *v.* Washington Jones. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Defendant ordered to pay costs.

*September 25.*—United States *v.* G. P. Hitchcock. Charge: Violation of the provisions of the act of Congress approved May 7, 1894. Defendant ordered to pay costs.

#### APPENDIX E.

##### *List of registered guides.*

| No. | Guide.                 | Residence.             | Number of animals. | Duration.                |
|-----|------------------------|------------------------|--------------------|--------------------------|
| 1   | B. D. Sheffield .....  | Livingston, Mont ..... | 40                 | July 1 to Dec. 1, 1899.  |
| 2   | Henry George .....     | Cinnabar, Mont .....   | 20                 | June 27 to Dec. 1, 1899. |
| 3   | E. Hofer .....         | Gardiner, Mont .....   | 40                 | July 1 to Dec. 1, 1899.  |
| 4   | W. T. Hall .....       | do .....               | 20                 | Do.                      |
| 5   | Wm. Wells .....        | Wells, Wyo .....       | 25                 | July 28 to Dec. 1, 1899. |
| 6   | Ed. Staley .....       | Lake, Idaho .....      | 40                 | Aug. 7 to Dec. 1, 1899.  |
| 7   | C. L. Ryerson .....    | Gardiner, Mont .....   | 30                 | Aug. 8 to Dec. 1, 1899.  |
| 8   | G. M. Leatherman ..... | do .....               | 40                 | Aug. 11 to Dec. 1, 1899. |
| 9   | John Dewing .....      | do .....               | 15                 | Aug. 12 to Dec. 1, 1899. |
| 10  | Frank Sebastian .....  | Elk, Wyo .....         | 30                 | Aug. 18 to Dec. 1, 1899. |
| 11  | Geo. W. Reese .....    | Cinnabar, Mont .....   | 30                 | Aug. 22 to Dec. 1, 1899. |
| 12  | E. C. Alderson .....   | Bozeman, Mont .....    | 20                 | Aug. 23 to Dec. 1, 1899. |



Maximum, 52° on 6th instant; minimum, 4° on 8th instant; mean, 24.98; total precipitation, 1.55 inches; prevailing winds, southwest

| DECEMBER, 1898. |          |          |        |        |                | JANUARY, 1899. |         |          |          |        |        | FEBRUARY, 1899. |          |         |          |          |        |        |                |          |
|-----------------|----------|----------|--------|--------|----------------|----------------|---------|----------|----------|--------|--------|-----------------|----------|---------|----------|----------|--------|--------|----------------|----------|
| Date.           | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.       | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation.  | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. |
| 1.....          | 31       | 20       | 11     | SW.    | .....          | Snow.          | 1.....  | 25       | 2        | 23     | S.     | 0.10            | Snow.    | 1.....  | -10      | -23      | 13     | N.     | 0.30           | Snow.    |
| 2.....          | 33       | 17       | 16     | N.     | 0.05           | Snow.          | 2.....  | 28       | 20       | 8      | S.     | .15             | Snow.    | 2.....  | -18      | -33      | 15     | N.     | .30            | Snow.    |
| 3.....          | 19       | 1        | 20     | S.     | .....          |                | 3.....  | 29       | 12       | 17     | S.     | .30             | Snow.    | 3.....  | -19      | -35      | 16     | N.     | .....          |          |
| 4.....          | 31       | 9        | 22     | S.     | .....          |                | 4.....  | 15       | 3        | 18     | S.     | .....           |          | 4.....  | -4       | -29      | 25     | S.     | .....          |          |
| 5.....          | 28       | 14       | 14     | N.     | .10            | Snow.          | 5.....  | 13       | 1        | 12     | N.     | Trace           |          | 5.....  | -9       | -28      | 19     | S.     | .....          |          |
| 6.....          | 21       | 2        | 23     | S.     | .....          |                | 6.....  | 12       | 8        | 20     | S.     | .....           |          | 6.....  | -3       | -22      | 19     | S.     | .....          |          |
| 7.....          | 20       | 4        | 16     | N.     | .07            | Snow.          | 7.....  | 23       | 1        | 24     | S.     | .....           |          | 7.....  | 7        | -9       | 16     | S.     | .20            | Snow.    |
| 8.....          | 18       | 2        | 20     | NW.    | .....          |                | 8.....  | 25       | 7        | 18     | SW.    | .....           |          | 8.....  | 18       | 7        | 11     | S.     | .20            | Snow.    |
| 9.....          | 9        | 15       | 24     | NW.    | .....          |                | 9.....  | 21       | 9        | 12     | SE.    | .....           |          | 9.....  | 31       | 15       | 16     | S.     | .40            | Snow.    |
| 10.....         | 16       | 5        | 21     | NW.    | .....          |                | 10..... | 30       | 12       | 18     | S.     | Trace           |          | 10..... | 29       | -10      | 39     | N.     | .30            | Snow.    |
| 11.....         | 23       | 0        | 23     | NW.    | .....          |                | 11..... | 32       | 23       | 9      | S.     | Trace           |          | 11..... | 24       | -2       | 26     | N.     | .20            | Snow.    |
| 12.....         | 26       | 5        | 21     | W.     | .....          |                | 12..... | 29       | 21       | 8      | SW.    | .....           |          | 12..... | 22       | -12      | 34     | S.     | .....          |          |
| 13.....         | 28       | 0        | 28     | SW.    | .....          |                | 13..... | 28       | 10       | 18     | S.     | Trace           |          | 13..... | 29       | 16       | 13     | S.     | .....          |          |
| 14.....         | 27       | 4        | 23     | SW.    | .....          |                | 14..... | 24       | 16       | 8      | S.     | .10             | Snow.    | 14..... | 32       | 18       | 14     | SW.    | .....          |          |
| 15.....         | 30       | 14       | 16     | SW.    | .....          |                | 15..... | 31       | 17       | 14     | S.     | .05             | Snow.    | 15..... | 32       | 25       | 7      | NW.    | .05            | Snow.    |
| 16.....         | 29       | 10       | 19     | SW.    | .....          |                | 16..... | 36       | 27       | 9      | NW.    | .10             | Snow.    | 16..... | 34       | 20       | 14     | W.     | .....          |          |
| 17.....         | 34       | 15       | 19     | SW.    | .....          |                | 17..... | 35       | 24       | 11     | SW.    | .10             | Snow.    | 17..... | 28       | 18       | 10     | SW.    | .10            | Snow.    |
| 18.....         | 36       | 18       | 18     | S.     | .....          |                | 18..... | 40       | 24       | 16     | SW.    | .05             | Snow.    | 18..... | 36       | 17       | 19     | S.     | .30            | Snow.    |
| 19.....         | 34       | 26       | 8      | SW.    | .....          |                | 19..... | 34       | 20       | 14     | S.     | .....           |          | 19..... | 43       | 23       | 20     | SW.    | .....          |          |
| 20.....         | 31       | 26       | 5      | SW.    | .....          |                | 20..... | 33       | 23       | 10     | S.     | .....           |          | 20..... | 39       | 22       | 17     | NW.    | .....          |          |
| 21.....         | 26       | 12       | 14     | W.     | .05            | Snow.          | 21..... | 38       | 29       | 9      | S.     | .....           |          | 21..... | 26       | 13       | 13     | W.     | .30            | Snow.    |
| 22.....         | 24       | 14       | 10     | NW.    | .....          |                | 22..... | 34       | 18       | 16     | NW.    | .13             | Snow.    | 22..... | 26       | -1       | 27     | NW.    | .....          |          |
| 23.....         | 18       | 3        | 15     | SW.    | .05            | Snow.          | 23..... | 20       | 0        | 20     | S.     | .....           |          | 23..... | 31       | 4        | 27     | W.     | .05            | Snow.    |
| 24.....         | 26       | 11       | 12     | S.     | .....          |                | 24..... | 32       | 15       | 17     | SW.    | .02             | Snow.    | 24..... | 29       | 11       | 18     | S.     | .....          |          |
| 25.....         | 31       | 18       | 13     | S.     | .....          |                | 25..... | 32       | 17       | 15     | W.     | .50             | Snow.    | 25..... | 30       | 7        | 23     | S.     | .20            | Snow.    |
| 26.....         | 36       | 27       | 9      | S.     | .....          |                | 26..... | 34       | 23       | 11     | W.     | .....           |          | 26..... | 23       | -3       | 26     | S.     | .10            | Snow.    |
| 27.....         | 37       | 31       | 6      | N.     | .20            | Snow.          | 27..... | 34       | 16       | 18     | S.     | .70             | Snow.    | 27..... | 27       | 17       | 10     | NW.    | .30            | Snow.    |
| 28.....         | 32       | 4        | 28     | N.     | .05            | Snow.          | 28..... | 30       | 12       | 18     | W.     | .30             | Snow.    | 28..... | 34       | 12       | 22     | S.     | .10            | Snow.    |
| 29.....         | 31       | 5        | 26     | N.     | .10            | Snow.          | 29..... | 40       | 13       | 27     | S.     | .30             | Snow.    | 29..... | 27       | 17       | 10     | NW.    | .....          |          |
| 30.....         | 9        | 5        | 14     | N.     | .....          |                | 30..... | 28       | 1        | 27     | N.     | .....           |          | 30..... | 31       | 12       | 22     | S.     | .....          |          |
| 31.....         | 8        | 10       | 18     | S.     | .....          |                | 31..... | 13       | -11      | 24     | N.     | 1.40            | Snow.    | 31..... | 567      | 38       | 529    | S.     | 3.40           |          |
| Total.          | 802      | 264      | 538    | .....  | .67            |                | Total.  | 878      | 389      | 489    | .....  | 4.21            |          | Total.  | 20.25    | 1.35     | 18.90  | .....  | .....          |          |
| Mean.           | 25.87    | 8.52     | 17.35  | SW.    | .....          |                | Mean.   | 28.32    | 12.55    | 15.77  | S.     | .....           |          | Mean.   | 20.25    | 1.35     | 18.90  | S.     | .....          |          |

Maximum, 37° on 27th instant; minimum, 1° on 3d instant; mean, 17.20°; total precipitation, 0.67 inch; prevailing winds, southwest.

Maximum, 40° on 18th instant; minimum, -11° on 31st instant; mean, 15.43°; total precipitation, 4.21 inches; prevailing winds, south.

Maximum, 43° on 19th instant; minimum, -35° on 3d instant; mean, 10.75°; total precipitation, 3.40 inches; prevailing winds, south.

Maximum, 37° on 27th instant; minimum, 1° on 3d instant; mean, 17.20°; total precipitation, 0.67 inch; prevailing winds, southwest.

Maximum, 40° on 18th instant; minimum, -11° on 31st instant; mean, 15.43°; total precipitation, 4.21 inches; prevailing winds, south.

Maximum, 43° on 19th instant; minimum, -35° on 3d instant; mean, 10.75°; total precipitation, 3.40 inches; prevailing winds, south.



YELLOWSTONE NATIONAL PARK.

9096—2

| MARCH, 1899.  |          |          |        |        |                     |          | APRIL, 1899.  |          |          |        |        |                     |          | MAY, 1899.   |          |          |        |        |                     |          |
|---|----------|----------|--------|--------|---------------------|----------|---|----------|----------|--------|--------|---------------------|----------|--|----------|----------|--------|--------|---------------------|----------|
| Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.  | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. |
| 1.....  | 36       | 21       | 15     | S.     | 0.10                | Snow.    | 1.....  | 31       | 10       | 21     | S.     | Trace               | Snow.    | 1.....   | 39       | 23       | 16     | N.     | 0.60                | Snow.    |
| 2.....  | 36       | 21       | 15     | S.     | .20                 | Snow.    | 2.....  | 36       | 16       | 20     | S.     | 0.40                |          | 2.....   | 24       | 19       | 5      | N.     |                     |          |
| 3.....  | 31       | 6        | 25     | S.     | .40                 | Snow.    | 3.....  | 47       | 16       | 31     | S.     |                     |          | 3.....   | 37       | 15       | 22     | S.     |                     |          |
| 4.....  | 30       | 16       | 14     | SW.    |                     |          | 4.....  | 45       | 32       | 13     | S.     |                     |          | 4.....   | 47       | 24       | 23     | S.     |                     |          |
| 5.....  | 30       | 3        | 27     | SW.    |                     |          | 5.....  | 48       | 23       | 25     | S.     |                     |          | 5.....   | 55       | 29       | 26     | S.     |                     |          |
| 6.....  | 37       | 21       | 16     | S.     |                     |          | 6.....  | 39       | 19       | 20     | S.     |                     |          | 6.....   | 61       | 28       | 33     | N.     |                     |          |
| 7.....  | 49       | 32       | 17     | SW.    |                     |          | 7.....  | 46       | 17       | 29     | S.     |                     |          | 7.....   | 62       | 32       | 30     | NW.    |                     |          |
| 8.....  | 43       | 32       | 11     | SW.    | .20                 | Snow.    | 8.....  | 51       | 20       | 31     | S.     |                     |          | 8.....   | 60       | 33       | 27     | NW.    |                     |          |
| 9.....  | 39       | 24       | 15     | NW.    |                     |          | 9.....  | 56       | 33       | 23     | S.     |                     |          | 9.....   | 57       | 33       | 19     | NW.    | .12                 | Rain.    |
| 10.....   | 26       | 14       | 12     | NW.    |                     |          | 10.....   | 54       | 33       | 21     | S.     |                     |          | 10.....  | 60       | 33       | 27     | W.     |                     |          |
| 11.....   | 30       | 3        | 27     | SW.    |                     |          | 11.....   | 48       | 33       | 15     | S.     |                     |          | 11.....  | 63       | 47       | 16     | S.     | .35                 | Rain.    |
| 12.....   | 30       | 16       | 14     | S.     |                     |          | 12.....   | 50       | 33       | 17     | S.     | .75                 | Rain.    | 12.....  | 54       | 27       | 27     | S.     |                     |          |
| 13.....   | 31       | 17       | 14     | S.     |                     |          | 13.....   | 45       | 25       | 20     | S.     |                     |          | 13.....  | 50       | 30       | 20     | S.     |                     |          |
| 14.....   | 26       | 6        | 20     | N.     | .10                 | Snow.    | 14.....   | 45       | 27       | 18     | S.     |                     |          | 14.....  | 43       | 34       | 9      | S.     | .04                 | Rain.    |
| 15.....   | 32       | —        | 35     | S.     | .40                 | Snow.    | 15.....   | 53       | 25       | 28     | SW.    |                     |          | 15.....  | 43       | 32       | 11     | SW.    | .25                 | Rain.    |
| 16.....   | 32       | 14       | 18     | S.     | .40                 | Snow.    | 16.....   | 49       | 33       | 16     | SW.    |                     |          | 16.....  | 45       | 31       | 14     | SW.    | .05                 | Rain.    |
| 17.....   | 27       | 10       | 17     | SW.    |                     |          | 17.....   | 39       | 19       | 20     | S.     | .05                 | Snow.    | 17.....  | 53       | 29       | 24     | S.     |                     |          |
| 18.....   | 28       | 3        | 25     | S.     |                     |          | 18.....   | 43       | 23       | 20     | N.     | 1.00                | Rain.    | 18.....  | 59       | 35       | 24     | S.     |                     |          |
| 19.....   | 36       | 25       | 11     | S.     | .05                 | Snow.    | 19.....   | 38       | 26       | 12     | N.     |                     |          | 19.....  | 50       | 40       | 10     | S.     | .10                 | Rain.    |
| 20.....   | 38       | 28       | 10     | S.     | .05                 | Snow.    | 20.....   | 45       | 18       | 27     | S.     |                     |          | 20.....  | 43       | 36       | 7      | N.     | .05                 | Rain.    |
| 21.....   | 33       | 1        | 32     | S.     | .20                 | Snow.    | 21.....   | 55       | 34       | 21     | S.     |                     |          | 21.....  | 44       | 33       | 11     | N.     | .05                 | Rain.    |
| 22.....   | 25       | 10       | 15     | SW.    |                     |          | 22.....   | 59       | 36       | 23     | S.     |                     |          | 22.....  | 48       | 31       | 17     | S.     | .03                 | Rain.    |
| 23.....   | 39       | 20       | 19     | SW.    | .50                 | Rain.    | 23.....   | 52       | 32       | 20     | NE.    |                     |          | 23.....  | 67       | 34       | 33     | S.     |                     |          |
| 24.....   | 45       | 35       | 10     | SW.    |                     |          | 24.....   | 50       | 29       | 21     | NW.    |                     |          | 24.....  | 71       | 36       | 35     | S.     |                     |          |
| 25.....   | 42       | 16       | 26     | N.     |                     |          | 25.....   | 60       | 31       | 29     | W.     |                     |          | 25.....  | 65       | 36       | 29     | S.     | .15                 | Rain.    |
| 26.....   | 18       | —        | 20     | N.     |                     |          | 26.....   | 46       | 29       | 17     | S.     |                     |          | 26.....  | 59       | 34       | 25     | S.     | .20                 | Rain.    |
| 27.....   | 19       | —        | 20     | N.     |                     |          | 27.....   | 35       | 26       | 9      | S.     | 2.00                | Snow.    | 27.....  | 57       | 30       | 27     | W.     | .15                 | Rain.    |
| 28.....   | 33       | 14       | 19     | S.     |                     |          | 28.....   | 38       | 14       | 24     | S.     | .30                 | Snow.    | 28.....  | 56       | 37       | 19     | W.     | .33                 | Rain.    |
| 29.....   | 37       | 24       | 13     | N.     | .40                 | Snow.    | 29.....   | 41       | 15       | 26     | S.     | .40                 | Snow.    | 29.....  | 58       | 39       | 19     | S.     | .05                 | Rain.    |
| 30.....   | 31       | 1        | 30     | N.     |                     |          | 30.....   | 44       | 29       | 15     | S.     |                     |          | 30.....  | 51       | 34       | 17     | W.     |                     |          |
| 31.....   | 28       | —        | 33     | N.     |                     |          | 31.....   | 44       | 29       | 15     | S.     |                     |          | 31.....  | 56       | 33       | 23     | W.     |                     |          |
| Total.  | 1,017    | 413      | 604    |        | 3.00                |          | Total.  | 1,388    | 756      | 632    |        | 2.30                |          | Total.   | 1,637    | 992      | 645    |        | 2.52                |          |
| Mean.   | 32.81    | 13.32    | 19.48  | S.     |                     |          | Mean.   | 46.27    | 25.20    | 21.07  | S.     |                     |          | Mean.  | 52.81    | 32.00    | 20.81  | S.     |                     |          |
| Maximum, 49° on 7th instant; minimum, —10° on 27th instant; mean, 23.07°; total precipitation, 3 inches; prevailing winds, south. |          |          |        |        |                     |          | Maximum, 60° on 25th instant; minimum, 10° on 1st instant; mean, 35.74°; total precipitation, 2.30 inches; prevailing winds, south. |          |          |        |        |                     |          | Maximum, 71° on 24th instant; minimum, 15° on 3d instant; mean, 42.40°; total precipitation, 2.52 inches; prevailing winds, south. |          |          |        |        |                     |          |

Maximum, 49° on 7th instant; minimum, —10° on 27th instant; mean, 23.07°; total precipitation, 3 inches; prevailing winds, south.

Maximum, 60° on 25th instant; minimum, 10° on 1st instant; mean, 35.74°; total precipitation, 2.30 inches; prevailing winds, south.

Maximum, 71° on 24th instant; minimum, 15° on 3d instant; mean, 42.40°; total precipitation, 2.52 inches; prevailing winds, south.

METEOROLOGICAL REGISTER, FORT YELLOWSTONE, WYO.—Continued.

| JUNE, 1899.   |          |          |        |        |                | JULY, 1899.   |         |          |          |        |        | AUGUST, 1899.   |          |         |          |          |        |        |                |          |
|---|----------|----------|--------|--------|----------------|---|---------|----------|----------|--------|--------|---|----------|---------|----------|----------|--------|--------|----------------|----------|
| Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.  | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation.  | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. |
| 1.....  | 59       | 38       | 21     | N.     | 0.08           | Rain.   | 1.....  | 76       | 37       | 39     | SW.    | .....   |          | 1.....  | 76       | 39       | 37     |        | .....          |          |
| 2.....  | 55       | 40       | 15     | N.     | .22            | Rain.   | 2.....  | 74       | 40       | 34     | NW.    | .....   |          | 2.....  | 75       | 40       | 35     |        | .....          |          |
| 3.....  | 60       | 42       | 18     | NW.    | .20            | Rain.   | 3.....  | 71       | 44       | 27     | NW.    | .....   |          | 3.....  | 78       | 41       | 37     |        | .....          |          |
| 4.....  | 55       | 36       | 19     | W.     | .15            | Rain.   | 4.....  | 70       | 49       | 26     | NW.    | .....   |          | 4.....  | 74       | 49       | 26     |        | .....          |          |
| 5.....  | 50       | 30       | 20     | N.     | .06            | Rain.   | 5.....  | 70       | 44       | 26     | SW.    | .....   |          | 5.....  | 75       | 45       | 29     |        | .....          |          |
| 6.....  | 46       | 26       | 20     | SW.    | .02            | Snow.   | 6.....  | 79       | 40       | 39     | W.     | .....   |          | 6.....  | 74       | 45       | 29     |        | .....          | Rain.    |
| 7.....  | 50       | 32       | 18     | N.     | .02            | Rain.   | 7.....  | 84       | 45       | 39     | SW.    | 0.05  | Rain.    | 7.....  | 69       | 50       | 19     | NW.    | .16            | Rain.    |
| 8.....  | 59       | 33       | 26     | S.     | .....          |   | 8.....  | 82       | 43       | 39     | SW.    | .....   |          | 8.....  | 67       | 48       | 19     | N.     | .08            | Rain.    |
| 9.....  | 67       | 33       | 34     | S.     | .....          |   | 9.....  | 84       | 46       | 38     | W.     | .....   |          | 9.....  | 65       | 44       | 21     | N.     | .30            | Rain.    |
| 10.....   | 65       | 46       | 19     | N.     | .05            | Rain.   | 10..... | 86       | 47       | 39     | S.     | .....   |          | 10..... | 65       | 43       | 22     | N.     | .70            | Rain.    |
| 11.....   | 63       | 45       | 18     | N.     | .05            | Rain.   | 11..... | 81       | 55       | 26     | SW.    | .40   | Rain.    | 11..... | 78       | 37       | 41     | W.     | .....          |          |
| 12.....   | 57       | 33       | 24     | NW.    | .18            | Rain.   | 12..... | 79       | 47       | 32     | SW.    | .05   | Rain.    | 12..... | 71       | 40       | 31     | W.     | .....          |          |
| 13.....   | 59       | 37       | 22     | W.     | .12            | Rain.   | 13..... | 71       | 49       | 22     | NW.    | .....   |          | 13..... | 77       | 43       | 34     | S.     | .....          |          |
| 14.....   | 59       | 33       | 26     | SW.    | .....          |   | 14..... | 74       | 46       | 28     | NW.    | .....   |          | 14..... | 83       | 45       | 38     | S.     | .....          |          |
| 15.....   | 69       | 34       | 35     | W.     | .....          |   | 15..... | 74       | 41       | 33     | NW.    | .....   |          | 15..... | 70       | 40       | 30     | E.     | .....          |          |
| 16.....   | 76       | 40       | 36     | SW.    | .....          |   | 16..... | 75       | 44       | 31     | W.     | .....   |          | 16..... | 71       | 37       | 34     | W.     | .08            | Rain.    |
| 17.....   | 82       | 49       | 33     | S.     | .....          |   | 17..... | 80       | 44       | 36     | W.     | .....   |          | 17..... | 68       | 42       | 26     | NW.    | .09            | Rain.    |
| 18.....   | 81       | 48       | 33     | S.     | .....          |   | 18..... | 86       | 47       | 39     | SW.    | .....   |          | 18..... | 73       | 37       | 36     | W.     | .....          |          |
| 19.....   | 76       | 55       | 21     | NW.    | .55            | Rain.   | 19..... | 88       | 49       | 39     | S.     | .....   | Rain.    | 19..... | 67       | 41       | 26     | NW.    | .45            | Rain.    |
| 20.....   | 64       | 48       | 16     | N.     | .15            | Rain.   | 20..... | 88       | 54       | 34     | S.     | .15   | Rain.    | 20..... | 78       | 44       | 34     | W.     | .....          |          |
| 21.....   | 56       | 35       | 21     | N.     | .....          |   | 21..... | 80       | 51       | 29     | SW.    | .....   |          | 21..... | 61       | 42       | 19     | N.     | .....          |          |
| 22.....   | 64       | 32       | 32     | NW.    | .....          |   | 22..... | 75       | 52       | 23     | W.     | .....   |          | 22..... | 52       | 34       | 18     | N.     | .02            | Rain.    |
| 23.....   | 71       | 33       | 38     | SW.    | .....          |   | 23..... | 71       | 34       | 37     | SW.    | .....   |          | 23..... | 58       | 35       | 23     | N.     | .....          |          |
| 24.....   | 77       | 39       | 38     | SW.    | .....          |   | 24..... | 79       | 41       | 38     | S.     | .....   |          | 24..... | 69       | 38       | 31     | N.     | .....          |          |
| 25.....   | 77       | 47       | 30     | SW.    | .....          |   | 25..... | 76       | 50       | 26     | NW.    | .23   | Rain.    | 25..... | 75       | 42       | 33     | W.     | .....          |          |
| 26.....   | 69       | 52       | 17     | SW.    | .05            |   | 26..... | 72       | 50       | 22     | W.     | .24   | Rain.    | 26..... | 73       | 47       | 26     | SW.    | .....          |          |
| 27.....   | 71       | 42       | 29     | S.     | .....          |   | 27..... | 76       | 46       | 30     | NW.    | .....   |          | 27..... | 75       | 43       | 32     | S.     | .....          |          |
| 28.....   | 81       | 45       | 36     | S.     | .....          |   | 28..... | 71       | 46       | 25     | NW.    | .....   |          | 28..... | 77       | 42       | 35     | S.     | .....          |          |
| 29.....   | 82       | 52       | 30     | S.     | .....          |   | 29..... | 80       | 41       | 39     | NW.    | .10   | Rain.    | 29..... | 78       | 47       | 31     | S.     | .....          |          |
| 30.....   | 74       | 51       | 23     | NW.    | .....          |   | 30..... | 78       | 41       | 37     | NW.    | .15   | Rain.    | 30..... | 77       | 38       | 39     | S.     | .....          |          |
| 31.....   |          |          |        |        |                |   | 31..... | 63       | 45       | 18     | NW.    | .....   |          | 31..... | 80       | 45       | 35     | S.     | .....          |          |
| Total.  | 1,974    | 1,206    | 768    | .....  | 1.90           |   | Total.  | 2,398    | 1,408    | 990    | .....  | 1.42  |          | Total.  | 2,229    | 1,303    | 926    | .....  | 2.23           |          |
| Mean.   | 63.33    | 38.50    | 24.83  | N.     | .....          |   | Mean.   | 77.36    | 45.42    | 31.91  | NW.    | .....   |          | Mean.   | 71.90    | 42.03    | 29.87  | S.     | .....          |          |
| Maximum, 82° on 17th instant; minimum, 26° on 6th instant; mean, 50.92°; total precipitation, 1.90 inches; prevailing winds, north. |          |          |        |        |                | Maximum, 88° on 19th instant; minimum, 34° on 23d instant; mean, 61.39°; total precipitation, 1.42 inches; prevailing winds, northwest. |         |          |          |        |        | Maximum, 83° on 14th instant; minimum, 34° on 22d instant; mean, 56.96°; total precipitation, 2.23 inches; prevailing winds, south. |          |         |          |          |        |        |                |          |



## APPENDIX G.

## RULES AND REGULATIONS OF THE YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,  
*Washington, D. C., April 1, 1899.*

The following rules and regulations for the government of the Yellowstone National Park are hereby established and made public pursuant to authority conferred by section 2475, Revised Statutes United States, and the act of Congress approved May 7, 1894:

(1) It is forbidden to remove or injure the sediments or incrustations around the geysers, hot springs, or steam vents; or to deface the same by written inscription or otherwise; or to throw any substance into the springs or geyser vents; or to injure or disturb in any manner or to carry off any of the mineral deposits, specimens, natural curiosities, or wonders within the park.

(2) It is forbidden to ride or drive upon any of the geyser or hot spring formations or to turn loose stock to graze in their vicinity.

(3) It is forbidden to cut or injure any growing timber. Camping parties will be allowed to use dead or fallen timber for fuel.

(4) Fires shall be lighted only when necessary, and completely extinguished when not longer required. The utmost care should be exercised at all times to avoid setting fire to the timber and grass, and anyone failing to comply therewith shall be peremptorily removed from the park.

(5) Hunting or killing, wounding, or capturing of any bird or wild animal, except dangerous animals, when necessary to prevent them from destroying life or inflicting an injury, is prohibited. The outfits, including guns, traps, teams, horses, or means of transportation used by persons engaged in hunting, killing, trapping, ensnaring, or capturing such birds or wild animals, or in possession of game killed in the park under other circumstances than prescribed above, will be forfeited to the United States, except in cases where it is shown by satisfactory evidence that the outfit is not the property of the person or persons violating this regulation and the actual owner thereof was not a party to such violation. Firearms will only be permitted in the park on written permission from the superintendent thereof. On arrival at the first station of the park guard, parties having firearms will turn them over to the sergeant in charge of the station, taking his receipt for them. They will be returned to the owners on leaving the park.

(6) Fishing with nets, seines, traps, or by the use of drugs or explosives, or in any other way than with hook and line, is prohibited. Fishing for purposes of merchandise or profit is forbidden by law. Fishing may be prohibited by order of the superintendent of the park in any of the waters of the park, or limited therein to any specified season of the year, until otherwise ordered by the Secretary of the Interior.

(7) No person will be permitted to reside permanently or to engage in any business in the park without permission, in writing, from the Department of the Interior. The superintendent may grant authority to competent persons to act as guides and revoke the same in his discretion, and no pack trains shall be allowed in the park unless in charge of a duly registered guide.

(8) The herding or grazing of loose stock or cattle of any kind within the park, as well as the driving of such stock or cattle over the roads of the park, is strictly forbidden, except in such cases where authority therefor is granted by the Secretary of the Interior.

(9) No drinking saloon or barroom will be permitted within the limits of the park.

(10) Private notices or advertisements shall not be posted or displayed within the park, except such as may be necessary for the convenience and guidance of the public, upon buildings on leased ground.

(11) Persons who render themselves obnoxious by disorderly conduct or bad behavior, or who violate any of the foregoing rules, will be summarily removed from the park, and will not be allowed to return without permission, in writing, from the Secretary of the Interior or the superintendent of the park.

Any person who violates any of the foregoing regulations will be deemed guilty of a misdemeanor, and be subjected to a fine as provided by the act of Congress approved May 7, 1894, "to protect the birds and animals in Yellowstone National Park, and to punish crimes in said park, and for other purposes," of not more than \$1,000, or imprisonment not exceeding two years, or both, and be adjudged to pay all costs of the proceedings.

E. A. HITCHCOCK,  
*Secretary of the Interior.*

## APPENDIX H.

## INSTRUCTIONS TO PERSONS TRAVELING THROUGH YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,  
OFFICE OF SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., April 1, 1899.*

The following instructions for the information and guidance of parties traveling through the Yellowstone Park, having received the approval of the Secretary of the Interior, are published for the benefit of all concerned:

(1) *Fires*.—The greatest care must be exercised to insure the complete extinction of all camp fires before they are abandoned. All ashes and unburned bits of wood must, when practicable, be thoroughly soaked with water. When fires are built in the neighborhood of decayed logs, particular attention must be directed to the extinguishment of fires in the decaying mold. Such material frequently smolders for days and then breaks out into dangerous conflagration. Fire may also be extinguished where water is not available by a complete covering of earth well packed down.

(2) *Camps*.—No camp will be made at a less distance than 100 feet from any traveled road. Blankets, clothing, hammocks, or any other article liable to frighten teams must not be hung at a nearer distance than this to the road. The same rule applies to temporary stops, such as for feeding horses or for taking luncheon.

Camp grounds must be thoroughly cleaned before they are abandoned, and such articles as tin cans, bottles, cast-off clothing, and other débris must be either buried or taken to some place where they will not offend the sight.

(3) *Bicycles*.—Many of the horses driven in the park are unused to bicycles and liable to be frightened by them. The greatest care must therefore be exercised by their riders. In meeting teams, riders will always dismount and stand at the side of the road—the lower side if the meeting be on a grade. In passing teams from the rear, riders will ring their bell as a warning, and inquire of the driver if they may pass. If it appear from the answer that the team is liable to be frightened, they may ask the driver to halt his team and allow them to dismount and walk past.

Riders of bicycles are responsible for all damages caused by failure to properly observe these instructions.

(4) *Fishing*.—All fish less than 6 inches in length should at once be returned to the water with the least damage possible to the fish. No fish should be caught in excess of the number needed for food.

(5) *Dogs*.—When dogs are taken through the park they must be prevented from chasing the animals and birds or annoying passers-by. To this end they must be carried in the wagons or led behind them while traveling, and kept within the limits of the camps when halted. Any dog found at large in disregard of this section will be killed.

(6) *Grazing animals*.—Only animals actually in use for purposes of transportation through the park can be grazed in the vicinity of the camps. They will not be allowed to run over any of the formations, nor near to any of the geysers or hot springs; neither will they be allowed to run loose in the roads.

(7) *Miscellaneous*.—The carving or writing of names or other things on any of the mileposts or signboards, or any of the seats, railings, or other structures, or on the trees, will not be permitted.

Persons are not allowed to bathe near any of the regularly traveled roads in the park without suitable bathing clothes.

(8) Willful disregard of these instructions will result in the ejection of the offending person or persons from the park.

OSCAR J. BROWN,  
*Captain, First U. S. Cavalry, Acting Superintendent Yellowstone National Park.*



R E P O R T

OF THE

ACTING SUPERINTENDENT

OF THE

YELLOWSTONE NATIONAL PARK

TO THE

SECRETARY OF THE INTERIOR.

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1 9 0 0 .

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WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1900.





REPORT  
OF THE  
ACTING SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK.

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YELLOWSTONE NATIONAL PARK,  
OFFICE OF SUPERINTENDENT,  
*Mammoth Hot Springs, Wyo., September 25, 1900.*

SIR: I have the honor to submit the following report of the condition of affairs in the Yellowstone National Park, covering the time since the last report rendered up to date, and of my management of same since assuming the duties of acting superintendent.

My administration dates from July 24 last, when I relieved Capt. Oscar J. Brown, First Cavalry, whose troop was ordered to the East for service with the regiment in China or the Philippine Islands, G Troop, First Cavalry, replacing M.

My work has been mainly of routine nature, inasmuch as I took charge of affairs at the height of the season, under established conditions which differed little, or not at all, from the previous season in regard to tourist travel and the business connected therewith.

For this reason, and because through an exigency of the service I succeeded to the superintendency of the park for an unexpired portion of Captain Brown's régime, I might quote his last report in most essential features.

PROTECTION.

The disposition of details of soldiers at the different stations has been the same as I found under my predecessor. The exchange was made with such great haste, in order that Troop M could be moved to the Pacific coast under telegraphic instructions from the War Department, that my men suffered some disadvantage in consequence. In reasonable time, however, they had familiarized themselves with their duties, which they have performed satisfactorily, with few exceptions.

For the winter season I shall make some changes, retaining the station at the Thumb as late as possible in the fall, on account of the returning hunting parties from the Jackson Hole country.

It is my intention to put a detachment with a civilian scout at Knowles Cabin to watch the Hellroaring country, and have the southwest corner of the reservation frequently scouted from the Snake River station during the fall and winter.

The establishing of snowshoe cabins throughout the park was an excellent step; they are most effective as a means of protection during

the winter, the scouts being enabled to cover practically the entire reservation and penetrate to localities which would otherwise be inaccessible at a time when poachers are at work.

These cabins are now being rationed and put in proper shape for winter use. Their location and number is shown by appended map, taken from Captain Brown's last report.

The civilian scouts do excellent work, and are indispensable to a satisfactory administration of affairs, as regards the protection of the game, etc. Their work, in conjunction with that of the local magistrate, has been, I believe, the salvation of the game up to the present time. These men know the country and are trained woodsmen in all seasons, whereas the soldier, as a rule, is replaced before he has time to become proficient in such duties.

Besides the work of the scouts and soldiers from Fort Yellowstone, making the round of snowshoe cabins during the winter, the instructions for the detachments at the permanent stations require frequent scouting trips within their districts, so that the entire area of the reservation is under fairly effective surveillance during the hunting season and winter; without an increase in the number of scouts, however, it is impossible to prevent poaching.

#### TRAVEL.

The following table shows the aggregate number of tourists making the trip through the park during the season, apportioned according to the different means of transportation, accommodation, etc.:

|   |        |
|---|--------|
| Carried by Yellowstone National Park Transportation Company, entering via northern entrance of park.....  | 2, 664 |
| Carried by Messrs. Humphrey & Haynes, entering via western entrance of park .....                         | 437    |
| Others at hotels, traveling with private transportation, bicyclers, etc....                               | 127    |
| <hr/>   |        |
| Total number at hotels .....  | 3, 228 |
| Carried by W. W. Wylie and accommodated at his permanent camps..  | 802    |
| Carried by other licensees of personally conducted camping parties ....                                   | 474    |
| <hr/>   |        |
| Total number camping, traveling with licensed transportation.....   | 1, 276 |
| Total number of tourists traveling through the park with private transportation as "camping parties"..... | 4, 424 |
| <hr/>   |        |
| Grand total of all visitors to the park, season of 1900.....  | 8, 928 |

During the season 3,050 tourists took the trip across Yellowstone Lake with the Yellowstone Lake Boat Company. Of this number, 1,816 entered the park with the Yellowstone National Park Transportation Company, 222 with Messrs. Humphrey & Haynes, 771 with W. W. Wylie, and the balance, 241 people, were other campers.

#### HOTELS.

Mr. J. H. Dean, president Yellowstone Park Association, has immediate charge of the hotels and lunch stations of that association, and deserves great credit for his efficiency in the administration of this very important service. I have nothing but praise for the satisfactory way in which these hotels are conducted.

The Wylie permanent camps, and other licensees for camping parties, have rendered satisfactory service.



## TRANSPORTATION.

In the matter of transportation there is no change since last season.

The two principal lines, the Yellowstone National Park Transportation Company and Monida and Yellowstone Stage Company, are well equipped and give excellent service.

The Wylie Company (for permanent camps) and other licensees to personally conduct camping parties have given satisfaction to their patrons, so far as I can learn.

In my official intercourse with the men having this business in charge, I have found them courteous and disposed to comply with the terms of their leases, licenses, or permits, as a rule, the principal exceptions being the cases recently reported to the Department.

The following is a list of licensees for transportation, etc., for the past season:

The Yellowstone National Park Transportation Company, S. S. Huntley, manager.

The Monida and Yellowstone Stage Company, Messrs. F. Jay Haynes and W. W. Humphrey, proprietors.

W. W. Wylie, permanent camping business.

Licensed to personally conduct camping parties: A. W. Chadbourn, C. C. Chadbourn, Charles Gassert, Marshall Brothers, Capt. Amos Shaw and J. D. Powell, R. H. Menefee, Sarah C. Gassert, Alfred Lycan and Frank A. Lyons, Ed. Staley, H. M. Gore, B. D. Sheffield, Lionel Compiegne, James V. and Houston Blankenship, Erwin Clark Sandy, Frank Scott, and B. S. Thresher.

## FIRES.

The past season has been remarkably dry, nothing like it being known in the park, and as a consequence the danger from fire was excessive.

Beginning on the first day of duty at the stations (July 22), my patrols were called upon to extinguish small fires frequently during the season in all parts of the park where camping parties were found. Only three of the fires threatened to be of serious proportions:

One on the Soda Butte road, 6 miles west of Yanceys, September 2, was set through the carelessness of a teamster, and was extinguished by the men from Soda Butte station before it reached the timber.

One on the grade in Gardiner Canyon (east fork), about 3 miles from Fort Yellowstone, September 3, presumably started from a cigar or cigarette thrown down by a party passing over the road in a wagon, was held in check by detachment from the post assisted by twenty roadmen from the force employed by Captain Chittenden, Corps of Engineers. This fire was kept under control for about ten hours, and extinguished by rainfall the following night.

The most serious fire during the season was reported July 29, west of the Thumb, apparently near Shoshone Lake. My troop was not yet established in its new quarters when every available man was sent, as rapidly as possible, to the scene of this fire, where Lieutenant Amos joined them August 1, and for about a month, with the assistance of men from the road crews furnished by Captain Chittenden, Corps of Engineers, the fire was held under partial control—depending always upon the condition of wind and the character of the timber growth—until timely rain and snow, August 24, extinguished what remained.

This fire at one time threatened the destruction of the timber in the park and the interruption of tourist travel. The high winds for sev-

eral days were unprecedented, and the small force available for work seemed helpless to make any impression.

I take pleasure in acknowledging the timely and willing assistance given by Captain Crittenden, through his road crews and foremen, and commend most highly the efficiency of Lieutenant Amos and the men under his command, whose patience and zeal accomplished so much in the face of discouraging conditions.

#### UNITED STATES COMMISSIONER.

In comparing the conditions which existed at the time the first military superintendent began his administration of affairs in the park with those at the present time, the one change which stands out most noticeably is the presence of a local magistrate having jurisdiction within the reservation.

I was on duty with Capt. Moses Harris, First Cavalry, during the season of 1887, and know how much the need of such an institution as a local court was felt at that time. The Government is fortunate in having as its representative in this department a man so well qualified as the present commissioner.

Following is report of cases tried for the past year:

*October 16.*—United States *v.* Henry Lohman, Benjamin F. Sheppard, and P. E. Sheppard. Charge, violation of Yellowstone Park protective act. Defendants fined \$10 each and costs.

*October 23.*—United States *v.* Richard Randall, Marion R. Randall, and C. J. B. Stevens. Charge, violation of Yellowstone Park protective act. Defendants fined \$10 each and costs.

*December 2.*—United States *v.* Sanders Keouskie. Charge, violation of Yellowstone Park protective act. Defendant fined \$10.

*December 28.*—United States *v.* George Mack. Charge, violation of Yellowstone Park protective act. Defendant discharged.

*January 25.*—United States *v.* James Courtenay and Jay Whitman. Charge, violation of Yellowstone Park protective act. Trial June 18, 1900. Defendants fined \$300 each and costs.

*May 15.*—United States *v.* John A. Brundage. Charge, violation of Yellowstone Park protective act. Defendant fined \$10 and costs.

*June 30.*—United States *v.* O. D. Johnson and James Jones. Charge, violation of Yellowstone Park protective act. Defendants fined \$5 each and costs.

*July 30.*—United States *v.* William Maher. Charge, assault. Defendant ordered to pay costs, \$14.40.

*August 6.*—United States *v.* J. Nealson, Frank Adams, J. H. Tomlinson, and E. J. Robinson. Charge, violation of Yellowstone Park protective act. Defendants fined \$5 each and costs.

*August 13.*—United States *v.* Anton Blas. Charge, violation of Yellowstone Park protective act. Defendant fined \$25 and costs.

*August 17.*—United States *v.* R. F. Russell. Charge, assault. Defendant discharged.

*August 17.*—United States *v.* William Merrill. Charge, assault. Defendant not apprehended.

*September 3.*—United States *v.* Amos Hogeland. Charge, violation of Yellowstone Park protective act. Defendant discharged.

#### WILD ANIMALS.

I have the assurance of the scouts, who have seen the game at all seasons, that, with the exception of the bison (American buffalo) all varieties, including antelope, bear, beaver, coyotes, deer, elk, moose, sheep, and mountain lions are increasing, notwithstanding that the antelope range in winter over the north boundary and the elk in the fall over the south boundary, where many of them are killed.

Owing to scarcity of feed the antelope will almost certainly wander



in large numbers across the northern boundary into the Yellowstone Valley, where their chances of getting back into the park again are very few. It is for this reason, and because of keeping stock out of the park, that the fence across this part of the boundary is so necessary.

Twenty-nine head of buffalo were counted by scouts last winter, and there were possibly 10 more in the park that were not seen.

Unless stations are located near the two southern corners of the reservation and the force of scouts increased the buffalo will be exterminated in a few years. With that addition to the facilities for protection they can be preserved and will increase.

#### FISH.

The trout in Willow Creek and Glen Creek, although apparently as numerous as ever, are so small as to indicate the advisability of prohibiting fishing in those streams during the next season. Otherwise there is no change in the conditions, the other streams throughout the park being full of fish of good size, notwithstanding the large number taken out every season.

#### CASUALTIES.

But two casualties during the season within the park limits were brought to my notice: The scalding of a camper at Fountain Basin, which was not reported to me, but which on inquiry I found to be the result of carelessness on the part of the injured man, and which did not, I believe, result seriously, and the disappearance from the Fountain Hotel of a tourist by the name of R. L. Piper, July 31. This man's disappearance was reported to me August 1, some twenty-four hours after he was first missed. My men were all at that time fighting fire at the south end of Shoshone Lake, and I could render little or no help. My patrols were instructed to do what was possible, and some days later a searching party was organized by friends of the lost man. Nothing being accomplished, however, the day following the return of my men from the scene of the fire I sent out a detachment, and some days later a second detachment, but with no better result.

It is my belief that Mr. Piper, when he arrived at the Fountain Hotel, was in a partially demented and irresponsible condition, and that he wandered away from the hotel, fell in with some camping outfit, and got out of the park.

#### IMPROVEMENT.

The work pertaining to the "improvement" in the Yellowstone National Park is in charge of Capt. H. M. Chittenden, Corps of Engineers, an officer of experience and ability, who is perhaps better equipped for this duty than any man in his corps.

In his work of construction and maintenance of roads and bridges this officer is not under the orders of the acting superintendent, and makes his report to the Chief of Engineers, United States Army. I have nothing, therefore, to say in the way of comment regarding this important work except that if such an anomalous condition is to continue I have confidence that Captain Chittenden will serve the Government to the best advantage under the circumstances.

Appended is a statement and estimate of projected improvements reported by that officer to the Chief of Engineers.

## RECOMMENDATIONS.

A knowledge of the park, extending through a number of years, and a most sincere interest in its preservation and welfare, prompt me to make the following recommendations for your consideration:

(1) The appropriation of \$10,000, to be expended in the proper quartering of soldiers at the stations throughout the park.

(2) That new stations be built (1) near southwest corner of park, on Bechler River; (2) where southern boundary crosses Snake River (present Snake River station to be abandoned); (3) at southeast corner, on Thorofare Creek; (4) on the Gallatin River or Fan Creek, near northwest corner, (5) and at the town of Gardiner, Mont.

(3) That never less than two troops of cavalry be stationed within the reservation for its protection.

(4) That the number of permanent scouts be increased to ten, with suitable quarters for same at Fort Yellowstone and Lower Geyser Basin, in order that the acting superintendent may divide the entire reservation into districts, to be constantly patrolled by them, after the manner of game wardens.

(5) That no individual nor business concern be allowed to cut hay within the limits of the national park.

(6) That it shall be a violation of park regulations to use any location within the park as a range for stock, and that no stock shall be allowed within the limits of the park which is not at all times under such control that it can not stray away from its owners.

(7) That it shall be necessary to give suitable bond in order to obtain a license to personally conduct camping parties through the park; that the number of such licenses be limited to ten, the number of passenger wagons in each case being limited to five.

(8) That, in accordance with the terms of its lease, the Yellowstone Park Association be required to furnish transportation exclusively for its guests throughout the park.

(9) That registered guides be required to sign an agreement, which, while they are in the national park, places upon them the obligation to enforce the regulations and protect the interests of the Government.

(10) That the introduction of liquor of any kind into the park, except as provided for under authority of the Interior or War Departments, shall be prohibited by park regulations.

(11) That all money appropriated for the purpose of improvement and protection, and for any other purpose, within the national park, be expended under the direction of the acting superintendent, and that all work in connection therewith shall be under his supervision and control.

(12) That a suitable fence be built inclosing the entire reservation along the official boundaries thereof, and that the Interior Department secure the enactment of laws for its protection and maintenance.

I have indicated on the appended map approximate route of a proposed trip I intend taking about October 1, with small detachment and pack outfit; rationing some of the snowshoe cabins en route, and locating sites for proposed additional stations, as per recommendation No. 2 in this report.

In conclusion, I take pleasure in testifying herein to the efficiency and fine character of the officers on duty at Fort Yellowstone, and Mr. Lindsley, the civilian clerk employed by the Interior Department, and



feel grateful for the intelligent and willing assistance they have given me in the discharge of my duties, and in expressing my gratification at the excellent work performed by the enlisted men of Troop G, First Cavalry, during its sojourn in the park.

Appended is meteorological report prepared by Dr. James B. Ferguson, acting assistant surgeon, United States Army.

I am, sir, very respectfully,

GEO. W. GOODE,

*Captain, First Cavalry, Acting Superintendent.*

The SECRETARY OF THE INTERIOR,

*Washington, D. C.*

#### APPENDIX A.

#### IMPROVEMENT YELLOWSTONE NATIONAL PARK.

UNITED STATES ENGINEER OFFICE,  
*Mammoth Hot Springs, Wyo., September 15, 1900.*

CAPTAIN: I have the honor to transmit herewith for your information a copy of my project for the improvement of the Yellowstone National Park, with the approval of the same by the Chief of Engineers. The act of June 6, 1900, contained the following provision:

"Provided further, That road extensions and improvements shall hereafter be made in said park under and in harmony with a general plan of roads and improvements to be approved by the Chief of Engineers of the Army."

Under this provision the Chief of Engineers called for a general project for the proposed road work of the park. The project herewith simply embraces in official form the scheme of improvement which has been in contemplation for many years, with the exception of the eastern approach, which was added this year by act of Congress.

The estimate of cost of this work is contained in my annual report for 1900, a copy of which will be sent you as soon as published.

Very respectfully,

H. M. CHITTENDEN,

*Captain, Corps of Engineers, United States Army.*

Capt. GEORGE W. GOODE,

*First Cavalry, United States Army, Acting Superintendent*

*Yellowstone National Park, Fort Yellowstone, Wyo.*

UNITED STATES ENGINEER OFFICE,  
*Mammoth Hot Springs, Wyo., August 20, 1900.*

GENERAL: In compliance with instructions contained in your letter of June 12, 1900 (E. D. file No. 30129), I have the honor to submit herewith a general plan for road extensions and improvements in the Yellowstone National Park.

The road system of the Yellowstone National Park is designed to give access to the many natural objects of interest which abound throughout that region. It may be considered under three heads:

(1) The belt line, or general circuit, which passes, or is to pass, through all the more important centers of interest.

(2) The approaches, by which travel reaches the belt line from the boundaries of the park.

(3) Side roads and trails, which are to give access to isolated objects of interest or are to serve the special purposes mentioned further on.

*The belt line.*—There are six principal centers of interest in the park. Three of them, the Mammoth Hot Springs, the Norris Geyser Basin, and the Firehole Geyser Basins, are located on a nearly north and south line and are, roughly speaking, 20 miles apart. The other three are the Yellowstone Lake, the Grand Canyon of the Yellowstone, and the open park country around Tower Falls at the northern base

of Mount Washburn, and are likewise located approximately on a north and south line about 20 miles to the eastward of the first.

The belt line is to include these six localities and travel will probably always pass around the circuit to the left.

The line from Mammoth Hot Springs to Norris is definitely fixed and constructed, and no future changes of importance in the alignment are proposed.

From Norris, via the Gibbon and Firehole rivers, past the Fountain Hotel, to the Upper Geyser Basin the general alignment is fixed, but the road is not yet all constructed. Additional work is required in the Gibbon Canyon and along all of that portion of the road through the Lower Geyser Basin.

From the Upper Geyser Basin to outlet of the Yellowstone Lake the line is definitely fixed, except over that portion from the Thumb to the Outlet. It is proposed to carry the road directly over the hills from the Thumb Bay to Bridge Bay, thus shortening the distance 4 miles. From the Thumb to the Outlet the lake itself will be an important part of the route, and tourists will generally pass over this portion of the circuit by boat.

From the Lake Outlet to the Canyon Junction the line is definitely located and constructed, and no changes of consequence are proposed.

From the Canyon Junction to Tower Falls the line is still unopened, except for 1 mile from the junction to the Canyon Hotel, and even this portion will require extensive modification to make it what it should be. It is proposed to carry the road across the Washburn range, through the low pass between Mount Washburn and Dunraven Peak, with a loop or side road passing over the Washburn summit.

From Tower Falls to Mammoth Hot Springs the line is still unlocated, except for about 2 miles near the east Gardiner Falls.

Connecting the east and west portions of the belt line at the points where they approach nearest each other is a crossroad which may be considered a part of the circuit. It extends between Norris and the Grand Canyon and will always be an important road, even when the circuit is entirely completed. The general location of this road will be as at present, but it will require radical modification and improvement in several places.

The total mileage of the belt line, including the crossroad just referred to, will be about 153 miles.

The approaches will be four in number, one from each border of the park. The northern approach extends from the northern boundary, near the mouth of the Gardiner River, up the valley of that stream to Mammoth Hot Springs, a distance of 5 miles. As the belt line here lies much nearer to a railroad than at any other point, and as the business and administrative headquarters of the park, with the military post of Fort Yellowstone, are all located here, the northern approach will probably always remain the most important to the traveling public.

The eastern approach is located and begun, but is still incomplete. It extends up the valley of the north fork of the Stinkingwater River, across the forest reserve to the mouth of Middle Creek, and up the latter stream to Sylvan Pass, and thence to the outlet of Yellowstone Lake. It enters the park about 2 miles above the mouth of Middle Creek. The distance from the east boundary of the forest reserve to the belt line will be about 58 miles.

The southern approach extends from the elevated valley of Jackson Hole up the Snake and Lewis rivers to the Lewis Lake, and thence to the belt line at the Thumb of the Yellowstone Lake. The length from the south boundary of the forest reserve is 33 miles. The whole line is located, but only partially constructed.

The western approach extends from the western boundary of the park, where the Madison River leaves the reservation, up the Madison River to the junction of the Firehole. Here it forks, one branch ascending the Gibbon and the other the Firehole, until they intersect the belt line in the valleys of these two streams. This road is open to travel, but is not yet definitely located over all its course, while some portions are only partially completed.

The total mileage of the approaches is about 116 miles, of which 79 miles is in the park proper and 37 miles in the forest reserve.

The side roads, trails, etc., are important adjuncts of the road system, giving access to points of interest off the main lines of travel. The following are the more important side roads:

Near Mammoth Hot Springs there will be a road leading around the terraces, another to the Middle Gardiner Falls, and a third to Mount Everts. These roads are as yet only partially completed.

At the Lower Geyser Basin there is a branch of the main road which starts near the mouth of the Nez Perce Creek, keeps mainly on the west side of the Firehole River, and joins the main road above Prismatic Lake. It is useful as a short cut for



freight teams. From the Mammoth Paint Pots, near the Fountain Hotel, a side road leads to the Firehole Spring and the Great Fountain Geyser.

At the Upper Basin there will be a road passing among the various objects of interest. It is already partially completed. Three and one-half miles above the Upper Basin there is a road already open leading to the Lone Star Geyser.

On the road along the Yellowstone River there is a loop about 3 miles long leading past Sulphur Mountain. It is only partially completed.

At the Grand Canyon there should be two side roads leading several miles down both banks of the canyon. One of these will require a bridge across the Yellowstone above the rapids. The road down the left bank has been constructed as far as to Inspiration Point,  $2\frac{1}{2}$  miles.

On the line between the Grand Canyon and Tower Falls there will be a loop about 4 miles long, leaving the main line at Dunraven Pass, extending across the summit of Washburn, and joining the main line to the north of the summit. From near Tower Falls there is a road extending up the Lamar and Soda Butte valleys to the northeast corner of the park. This road gives access to numerous objects of interest in the Lamar Valley, is useful in supplying the patrol station near Soda Butte, and gives a necessary highway for commercial purposes and for the United States mail to the mining districts on the northeast corner of the park.

The total mileage of these side roads will amount to about 72 miles.

The trails of the park are used mainly in patrolling the reservation, but also to a considerable extent by camping parties who are visiting portions of the park not reached by the roads. They have been almost entirely neglected in recent years, and are consequently badly blockaded with fallen timber. Nothing is proposed in the line of extending these trails, but they should be maintained in passable condition.

Concerning the character of the work at present proposed, nothing is contemplated beyond securing a good grade, 18 feet wide, with a clearing through timber 30 feet wide, gradients nowhere exceeding 10 per cent, good side ditches, culverts, and bridges. In regard to the culverts and bridges it is proposed to use iron or tile for the culverts and steel and concrete for the bridges where these are located near enough to the railroad not to make the cost of transportation excessive. Farther out in the park wood will be used as heretofore.

The present project and estimates do not contemplate the macadamization of the roads. While this will come in time, it will probably be done along with the current annual repairs, and its completion will be a matter of many years to come.

The detailed mileage of the road system, statement of past expenditures and estimates of future cost, together with maps showing the location of the roads, are contained in the Annual Report of the Chief of Engineers for 1900.

Very respectfully, your obedient servant,

H. M. CHITTENDEN,  
*Captain, Corps of Engineers.*

Brig. Gen. JOHN M. WILSON,  
*Chief of Engineers, United States Army,*  
*Washington, D. C.*

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OFFICE OF THE CHIEF OF ENGINEERS, UNITED STATES ARMY,  
*Washington, D. C., August 27, 1900.*

CAPTAIN: Referring to your letter of the 20th instant, submitting a general plan for road extensions and improvements in the Yellowstone National Park and to the detailed project contained in your annual report for the fiscal year ending June 30, 1900, I have to say that these projects, in my judgment, are in accord with the requirements of sundry civil act of June 6, 1900, and, subject to such minor changes as may become necessary from time to time in the progress of the work, they meet with my approval. All road extensions and improvements carried on in the park under the Engineer Department will hereby be in harmony with these approved projects.

Very respectfully, your obedient servant,

JOHN M. WILSON,  
*Brigadier-General, Chief of Engineers.*

Capt. H. M. CHITTENDEN,  
*Corps of Engineers, Sioux City, Iowa.*

## ESTIMATES.

In my last annual report I presented an estimate of the cost of completing the existing project for the construction of roads and bridges in the Yellowstone National Park. The sum estimated was \$300,000. A full explanation of each item of the estimate may be found in Senate document No. 226, Fifty-sixth Congress, first session, pages 9 to 15. Fuller information derived from more careful surveys made after the estimate was prepared necessitated a slight modification in a few items. Congress at its last session extended the project by authorizing the construction of a road from the outlet of the Yellowstone Lake to the east boundary of the forest reserve. This work will ultimately cost, omitting the bridges over the Yellowstone River and Pelican Creek, not less than \$100,000, of which \$20,000 has been appropriated.

The work necessary to be done at the beginning of the fiscal year 1901 is as follows:

|   |          |
|---|----------|
| 1. New road in Gardiner Canyon, including 3 steel bridges.....  | \$10,000 |
| 2. Road through Golden Gate Canyon, including a new bridge to replace wooden bridge around cliff, and widening road along cliff, the latter all solid rock work.....            | 15,000   |
| 3. Raising 3 miles of road in Gibbon Canyon, and cutting out 1 mile of dangerous grades; also opening 4 miles of new road down the Gibbon to connect with western approach..... | 16,000   |
| 4. Completion of 8 miles of road near Fountain Hotel.....   | 8,000    |
| 5. Completion of southern approach along Snake River, 20 miles.....   | 30,000   |
| 6. New road from West Thumb to Natural Bridge, cutting out present line around lake shore, 8 miles.....   | 16,000   |
| 7. New road from lake outlet to east boundary of forest reserve, 50 miles, at \$2,000, eastern approach.....  | 100,000  |
| 8. Surfacing new road from Lake Hotel to Grand Canyon, 15 miles.....  | 15,000   |
| 9. New road down right bank of Grand Canyon, 3 miles.....   | 6,000    |
| 10. New road near Grand Canyon to cut out dangerous hills.....  | 5,000    |
| 11. New road, Canyon to Norris, 10 miles.....   | 20,000   |
| 12. New road, Grand Canyon, via Mount Washburn and Tower Falls, to Mammoth Hot Springs, 40 miles.....   | 80,000   |
| 13. Completion of Cooke City road.....  | 15,000   |
| 14. Side roads and trails.....  | 9,000    |
| 15. New bridges not included in above estimate:   |          |
| Yellowstone River, to replace Baronett bridge.....  | \$10,000 |
| Yellowstone River, near falls.....  | 20,000   |
| Yellowstone River, at lake outlet.....  | 10,000   |
| Lamar River, to replace existing bridge.....  | 5,000    |
| Pelican Creek.....  | 3,000    |
| Gibbon River, two bridges.....  | 4,000    |
| On Snake River road, two bridges.....   | 6,000    |
| Cascade Creek bridge, near Grand Canyon.....  | 5,000    |
| Nez Percés Creek.....   | 2,000    |
|   | <hr/>    |
|   | 65,000   |
| 16. New plant.....  | 5,000    |
| 17. New office and other buildings.....   | 10,000   |
|   | <hr/>    |
| Total for completion of project.....  | 425,000  |
| 18. Annual repairs and maintenance for season ending June 30, 1902, 150 miles, at \$100 per mile.....   | 15,000   |



APPENDIX B.  
METEOROLOGICAL REPORT.

YELLOWSTONE NATIONAL PARK.

| SEPTEMBER, 1899.  |          |          |        |        |                | OCTOBER, 1899. |  |          |          |        |        | NOVEMBER, 1899. |          |   |          |          |        |        |                |          |
|---|----------|----------|--------|--------|----------------|----------------|--|----------|----------|--------|--------|-----------------|----------|---|----------|----------|--------|--------|----------------|----------|
| Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks.       | Date.  | Maximum. | Minimum. | Range. | Winds. | Precipitation.  | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipitation. | Remarks. |
| 1.....  | 78       | 57       | 21     | NW.    | .....          | Rain.          | 1.....   | 61       | 37       | 24     | S. S.  | .....           |          | 1.....  | 53       | 25       | 28     | SE.    | .....          |          |
| 2.....  | 78       | 40       | 38     | NW.    | 0.37           |                | 2.....   | 47       | 22       | 35     | S.     | .....           |          | 2.....  | 55       | 26       | 29     | SW.    | .....          |          |
| 3.....  | 80       | 40       | 40     | NW.    | .....          |                | 3.....   | 59       | 29       | 30     | S. S.  | .....           |          | 3.....  | 57       | 25       | 32     | SE.    | .....          |          |
| 4.....  | 71       | 38       | 33     | NW.    | .....          |                | 4.....   | 69       | 26       | 34     | S.     | .....           |          | 4.....  | 50       | 25       | 25     | SE.    | .....          |          |
| 5.....  | 70       | 36       | 34     | NW.    | .....          |                | 5.....   | 74       | 33       | 41     | SE.    | .....           |          | 5.....  | 45       | 33       | 12     | SW.    | .....          |          |
| 6.....  | 64       | 37       | 27     | W.     | .....          |                | 6.....   | 67       | 36       | 31     | SE.    | .....           |          | 6.....  | 40       | 25       | 15     | SW.    | .....          |          |
| 7.....  | 63       | 29       | 31     | NW.    | .....          |                | 7.....   | 69       | 36       | 33     | S.     | .....           |          | 7.....  | 49       | 24       | 25     | S.     | .....          |          |
| 8.....  | 68       | 28       | 40     | SW.    | .....          |                | 8.....   | 46       | 34       | 12     | N.     | .....           |          | 8.....  | 53       | 30       | 23     | E.     | .....          |          |
| 9.....  | 74       | 31       | 43     | W.     | .....          |                | 9.....   | 44       | 26       | 18     | N.     | .....           |          | 9.....  | 47       | 35       | 12     | E.     | .....          |          |
| 10.....   | 78       | 38       | 40     | W.     | .....          |                | 10.....  | 38       | 27       | 11     | N.     | .....           |          | 10.....   | 57       | 34       | 23     | E.     | .....          |          |
| 11.....   | 85       | 45       | 40     | S.     | .....          |                | 11.....  | 40       | 26       | 14     | N.     | 0.30            | Snow.    | 11.....   | 47       | 33       | 14     | E.     | .....          |          |
| 12.....   | 82       | 42       | 40     | S.     | .....          |                | 12.....  | 31       | 20       | 11     | NW.    | .20             | Snow.    | 12.....   | 40       | 29       | 11     | S.     | .....          |          |
| 13.....   | 72       | 49       | 23     | S.     | .....          |                | 13.....  | 34       | 13       | 21     | NW.    | .35             | Snow.    | 13.....   | 43       | 33       | 10     | SW.    | .....          |          |
| 14.....   | 57       | 37       | 20     | N.     | .53            | Rain.          | 14.....  | 31       | 18       | 13     | N.     | .05             | Snow.    | 14.....   | 52       | 32       | 20     | S.     | .....          |          |
| 15.....   | 51       | 37       | 14     | NW.    | .....          |                | 15.....  | 31       | 20       | 11     | N.     | .20             | Snow.    | 15.....   | 51       | 30       | 21     | SE.    | .....          |          |
| 16.....   | 62       | 33       | 29     | S.     | .....          |                | 16.....  | 33       | 20       | 13     | N.     | .....           |          | 16.....   | 45       | 37       | 8      | SE.    | 0.01           | Snow.    |
| 17.....   | 66       | 34       | 32     | E.     | .....          |                | 17.....  | 35       | 24       | 11     | NW.    | .15             | Snow.    | 17.....   | 40       | 24       | 16     | E.     | .....          |          |
| 18.....   | 68       | 34       | 34     | SW.    | .....          |                | 18.....  | 37       | 25       | 12     | NW.    | .025            | Snow.    | 18.....   | 36       | 24       | 12     | SE.    | .....          |          |
| 19.....   | 70       | 33       | 37     | S.     | .....          |                | 19.....  | 51       | 29       | 22     | NW.    | .25             | Rain.    | 19.....   | 42       | 27       | 15     | NE.    | .....          |          |
| 20.....   | 76       | 35       | 41     | S.     | .....          |                | 20.....  | 54       | 42       | 12     | N.     | .....           |          | 20.....   | 41       | 26       | 15     | NE.    | .....          |          |
| 21.....   | 74       | 40       | 34     | S.     | .....          |                | 21.....  | 57       | 36       | 21     | N.     | .....           |          | 21.....   | 39       | 21       | 18     | S.     | .....          |          |
| 22.....   | 75       | 36       | 39     | S.     | .....          |                | 22.....  | 41       | 33       | 6      | N.     | .....           |          | 22.....   | 38       | 24       | 14     | E.     | .....          |          |
| 23.....   | 73       | 27       | 46     | S.     | .....          |                | 23.....  | 42       | 31       | 11     | W.     | .....           |          | 23.....   | 37       | 12       | 25     | E.     | .....          |          |
| 24.....   | 72       | 37       | 35     | SE.    | .....          |                | 24.....  | 38       | 24       | 14     | W.     | .50             |          | 24.....   | 40       | 13       | 27     | SE.    | .....          |          |
| 25.....   | 77       | 40       | 37     | S.     | .....          |                | 25.....  | 40       | 23       | 17     | NW.    | .....           |          | 25.....   | 45       | 14       | 31     | NE.    | .....          |          |
| 26.....   | 80       | 42       | 38     | S.     | .....          |                | 26.....  | 36       | 25       | 11     | W.     | .....           |          | 26.....   | 42       | 19       | 23     | E.     | .....          |          |
| 27.....   | 68       | 44       | 24     | S.     | .....          |                | 27.....  | 46       | 30       | 16     | NW.    | .....           |          | 27.....   | 41       | 33       | 8      | SE.    | .....          |          |
| 28.....   | 74       | 31       | 43     | S.     | .....          |                | 28.....  | 57       | 30       | 27     | SW.    | .....           |          | 28.....   | 43       | 36       | 7      | E.     | .....          |          |
| 29.....   | 72       | 37       | 35     | S.     | .....          |                | 29.....  | 56       | 28       | 28     | S.     | .....           |          | 29.....   | 35       | 31       | 4      | E.     | .025           | Snow.    |
| 30.....   | 75       | 37       | 38     | S.     | .....          |                | 30.....  | 54       | 28       | 26     | S.     | .....           |          | 30.....   | 28       | 24       | 4      | E.     | .....          |          |
| Total.  | 2,153    | 1,124    | 1,029  | .....  | .90            |                | Total.   | 1,462    | 862      | 600    | .....  | 2.025           |          | Total.  | 1,331    | 804      | 527    | .....  | .035           |          |
| Mean.   | 71.77    | 37.47    | 34.30  | S.     | .....          |                | Mean.  | 47.16    | 27.80    | 19.36  | N.     | .....           |          | Mean.   | 44.37    | 26.8     | 17.56  | E.     | .....          |          |
| Maximum, 85° on the 11th instant; minimum, 27° on the 23d instant; mean, 54.62°; total precipitation, 0.90 inch; prevailing winds, south. |          |          |        |        |                |                | Maximum, 74° on the 5th instant; minimum, 13° on the 13th instant; mean, 37.48°; total precipitation, 2.025 inches; prevailing winds, north. |          |          |        |        |                 |          | Maximum, 57° on the 3d instant; minimum, 12° on the 23d instant; mean, 35.58°; total precipitation, 0.035 inch; prevailing winds, east. |          |          |        |        |                |          |

METEOROLOGICAL REPORT—Continued.

| DECEMBER, 1899.  |          |          |        |        |                     | JANUARY, 1900. |   |          |          |        |        | FEBRUARY, 1900.     |          |  |          |          |        |        |                     |          |
|--|----------|----------|--------|--------|---------------------|----------------|---|----------|----------|--------|--------|---------------------|----------|--|----------|----------|--------|--------|---------------------|----------|
| Date.  | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks.       | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.  | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. |
| 1.....   | 35       | 27       | 8      | E.     | 0.20                | Snow.          | 1.....  | 22       | 2        | 20     | E.     | .....               |          | 1.....   | 29       | 10       | 19     | SW.    | .....               |          |
| 2.....   | 20       | 13       | 7      | E.     | .....               |                | 2.....  | 35       | 13       | 22     | SE.    | .....               |          | 2.....   | 33       | 21       | 12     | SW.    | .....               |          |
| 3.....   | 20       | 4        | 16     | S.     | .....               |                | 3.....  | 36       | 30       | 6      | S.     | .....               |          | 3.....   | 29       | 24       | 5      | S.     | .....               |          |
| 4.....   | 24       | 4        | 20     | SE.    | .....               |                | 4.....  | 31       | 30       | 1      | S.     | .....               |          | 4.....   | 27       | 14       | 13     | S.     | .....               |          |
| 5.....   | 26       | 13       | 13     | SE.    | .05                 | Snow.          | 5.....  | 31       | 28       | 3      | S.     | .....               |          | 5.....   | 22       | 10       | 12     | NE.    | 0.7                 | Snow.    |
| 6.....   | 27       | 12       | 15     | SE.    | .....               |                | 6.....  | 33       | 27       | 6      | S.     | .....               |          | 6.....   | 13       | 9        | 14     | NE.    | .....               |          |
| 7.....   | 28       | 14       | 14     | S.     | .....               |                | 7.....  | 35       | 30       | 5      | S.     | .....               |          | 7.....   | 9        | —13      | 22     | SW.    | .....               |          |
| 8.....   | 27       | 19       | 8      | E.     | .025                | Snow.          | 8.....  | 30       | 29       | 1      | SE.    | 0.025               | Snow.    | 8.....   | 20       | 6        | 14     | W.     | .....               |          |
| 9.....   | 20       | 12       | 8      | SE.    | .....               |                | 9.....  | 24       | 13       | 11     | S.     | .050                | Snow.    | 9.....   | 27       | 19       | 8      | SW.    | .....               |          |
| 10.....  | 20       | 9        | 11     | E.     | .050                | Snow.          | 10.....   | 23       | 21       | 2      | S.     | .....               |          | 10.....  | 25       | 21       | 4      | N.     | .6                  | Snow.    |
| 11.....  | 22       | 18       | 4      | SE.    | .250                | Snow.          | 11.....   | 24       | 17       | 7      | S.     | .125                | Snow.    | 11.....  | 24       | 13       | 11     | SW.    | .....               |          |
| 12.....  | 17       | 16       | 1      | SE.    | .....               |                | 12.....   | 26       | 22       | 4      | S.     | .....               |          | 12.....  | 14       | 0        | 14     | S.     | .075                | Snow.    |
| 13.....  | 16       | 5        | 11     | E.     | .....               |                | 13.....   | 37       | 23       | 14     | S.     | .025                | Snow.    | 13.....  | 5        | —7       | 12     | S.     | .....               |          |
| 14.....  | 20       | 9        | 11     | SE.    | .....               |                | 14.....   | 32       | 26       | 6      | N.     | .425                | Snow.    | 14.....  | .....    | —21      | .....  | N.     | .....               |          |
| 15.....  | 24       | 13       | 11     | E.     | .475                | Snow.          | 15.....   | 23       | 13       | 10     | S.     | .....               |          | 15.....  | .....    | —21      | .....  | N.     | .050                | Snow.    |
| 16.....  | 24       | 10       | 14     | E.     | .125                | Snow.          | 16.....   | 27       | 17       | 10     | SW.    | .....               |          | 16.....  | .....    | —25      | .....  | N.     | .....               |          |
| 17.....  | 21       | 19       | 2      | E.     | .....               |                | 17.....   | 31       | 22       | 9      | S.     | .....               |          | 17.....  | .....    | —5       | .....  | S.     | .....               |          |
| 18.....  | 15       | 3        | 12     | E.     | .....               |                | 18.....   | 35       | 15       | 20     | S.     | .....               |          | 18.....  | .....    | .....    | .....  | S.     | .....               |          |
| 19.....  | 24       | —        | 26     | NE.    | .....               |                | 19.....   | 34       | 23       | 11     | SE.    | .....               |          | 19.....  | .....    | .....    | .....  | S.     | .....               |          |
| 20.....  | 34       | 17       | 17     | E.     | .....               |                | 20.....   | 31       | 23       | 8      | SE.    | .....               |          | 20.....  | .....    | .....    | .....  | E.     | .....               |          |
| 21.....  | 28       | 8        | 20     | SE.    | .....               |                | 21.....   | 30       | 11       | 19     | S.     | .....               |          | 21.....  | .....    | .....    | .....  | S.     | .2                  | Snow.    |
| 22.....  | 22       | 15       | 7      | E.     | .....               |                | 22.....   | 35       | 14       | 21     | SW.    | .....               |          | 22.....  | .....    | .....    | .....  | S.     | .....               |          |
| 23.....  | 28       | 21       | 7      | E.     | .....               |                | 23.....   | 24       | 22       | 2      | NW.    | .225                | Snow.    | 23.....  | .....    | .....    | .....  | SW.    | .....               |          |
| 24.....  | 32       | 27       | 5      | E.     | .....               |                | 24.....   | 20       | 12       | 8      | SW.    | .....               |          | 24.....  | .....    | .....    | .....  | SW.    | .....               |          |
| 25.....  | 30       | 21       | 9      | E.     | .125                | Snow.          | 25.....   | 18       | —1       | 19     | SE.    | .....               |          | 25.....  | .....    | .....    | .....  | SW.    | .....               |          |
| 26.....  | 24       | 21       | 3      | E.     | .600                | Snow.          | 26.....   | 23       | 3        | 20     | SE.    | .....               |          | 26.....  | .....    | .....    | .....  | W.     | .....               |          |
| 27.....  | 24       | 10       | 14     | SE.    | .....               |                | 27.....   | 10       | —2       | 12     | N.     | .....               |          | 27.....  | .....    | .....    | .....  | S.     | .025                | Snow.    |
| 28.....  | 30       | 12       | 18     | SE.    | .....               |                | 28.....   | 18       | —12      | 30     | S.     | .....               |          | 28.....  | .....    | .....    | .....  | SW.    | .....               |          |
| 29.....  | 31       | 16       | 15     | S.     | .....               |                | 29.....   | 21       | 15       | 6      | SW.    | .050                | Snow.    | 29.....  | .....    | .....    | .....  | .....  | .....               |          |
| 30.....  | 32       | 14       | 18     | SE.    | .....               |                | 30.....   | 28       | 14       | 14     | S.     | .....               |          | 30.....  | .....    | .....    | .....  | .....  | .....               |          |
| 31.....  | 22       | 2        | 20     | E.     | .....               |                | 31.....   | 31       | 10       | 21     | S.     | .....               |          | 31.....  | .....    | .....    | .....  | .....  | .....               |          |
| Total  | 767      | 402      | 365    | .....  | 1.90                |                | Total   | 858      | 510      | 348    | .....  | .....               |          | Total  | 277      | 271      | 150    | .....  | .....               |          |
| Mean   | 24.74    | 12.97    | 11.77  | E.     | .....               |                | Mean  | 27.68    | 16.44    | 11.23  | S.     | .925                |          | Mean   | 21.30    | 9.7      | 11.35  | S.     | .....               |          |
| Maximum, 35° on the 1st instant; minimum, —2° on the 19th instant; mean, 18.85°; total precipitation, 1.90 inches; prevailing winds, east. |          |          |        |        |                     |                | Maximum, 37° on the 13th instant; minimum, —12° on the 28th instant; mean, 22.6°; total precipitation, 0.925 inch; prevailing winds, south. |          |          |        |        |                     |          | Maximum thermometer broken on the 13th; hence incomplete report. |          |          |        |        |                     |          |



| MARCH, 1900.  |          |          |        |        |                     |          | APRIL, 1900.  |          |          |        |        |                     |          | MAY, 1900.  |          |          |        |        |                     |          |
|---|----------|----------|--------|--------|---------------------|----------|---|----------|----------|--------|--------|---------------------|----------|---|----------|----------|--------|--------|---------------------|----------|
| Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. |
| 1.....  | .....    | 16       | .....  | S.     | 0.03                | Snow.    | 1.....  | 62       | 30       | 32     | S.     | .....               |          | 1.....  | 60       | 36       | 24     | S.     | 0.03                | Rain.    |
| 2.....  | .....    | 14       | .....  | S.     | .....               | Snow.    | 2.....  | 60       | 32       | 28     | SW.    | .....               |          | 2.....  | 61       | 30       | 31     | S.     | .....               |          |
| 3.....  | .....    | 26       | .....  | SW.    | .05                 | Snow.    | 3.....  | 53       | 29       | 24     | SE.    | 0.06                | Rain.    | 3.....  | 65       | 36       | 29     | S.     | .....               |          |
| 4.....  | .....    | 4        | .....  | NE.    | .50                 | Snow.    | 4.....  | 53       | 32       | 21     | NW.    | .....               |          | 4.....  | 65       | 38       | 27     | S.     | .....               |          |
| 5.....  | .....    | -4       | .....  | NE.    | .63                 | Snow.    | 5.....  | 64       | 31       | 33     | SW.    | .....               |          | 5.....  | 66       | 38       | 28     | S.     | .....               |          |
| 6.....  | 32       | 6        | 26     | E.     | .02                 | Snow.    | 6.....  | 64       | 32       | 32     | S.     | .....               |          | 6.....  | 60       | 43       | 17     | S.     | .....               |          |
| 7.....  | 37       | 27       | 10     | SW.    | .10                 | Snow.    | 7.....  | 55       | 34       | 21     | NE.    | .....               |          | 7.....  | 60       | 35       | 25     | S.     | .....               |          |
| 8.....  | 42       | 29       | 13     | S.     | .60                 | Snow.    | 8.....  | 40       | 25       | 15     | N.     | .60                 | Snow.    | 8.....  | 70       | 37       | 33     | S.     | .....               |          |
| 9.....  | 42       | 25       | 17     | S.     | .10                 | Snow.    | 9.....  | 41       | 26       | 15     | N.     | .....               |          | 9.....  | 76       | 40       | 36     | S.     | .....               |          |
| 10.....   | 52       | 37       | 15     | S.     | .....               |          | 10.....   | 41       | 28       | 13     | N.     | .....               |          | 10.....   | 75       | 39       | 36     | W.     | .....               |          |
| 11.....   | 57       | 35       | 22     | S.     | .....               |          | 11.....   | 53       | 21       | 32     | SW.    | .....               |          | 11.....   | 73       | 43       | 30     | SW.    | .....               |          |
| 12.....   | 56       | 34       | 22     | S.     | .....               |          | 12.....   | 41       | 27       | 14     | SW.    | .....               |          | 12.....   | 68       | 36       | 32     | NW.    | .60                 | Rain.    |
| 13.....   | 48       | 24       | 24     | SW.    | .....               |          | 13.....   | 50       | 33       | 17     | S.     | .....               |          | 13.....   | 45       | 32       | 13     | NW.    | .....               |          |
| 14.....   | 40       | 21       | 19     | N.     | .....               |          | 14.....   | 42       | 30       | 12     | SE.    | .05                 | Snow.    | 14.....   | 51       | 32       | 19     | S.     | .....               |          |
| 15.....   | 42       | 30       | 12     | N.     | .....               |          | 15.....   | 43       | 32       | 11     | N.     | .10                 | Snow.    | 15.....   | 66       | 31       | 35     | S.     | .....               |          |
| 16.....   | 41       | 24       | 17     | NE.    | .....               |          | 16.....   | 46       | 30       | 16     | S.     | .....               |          | 16.....   | 60       | 40       | 20     | S.     | .....               |          |
| 17.....   | 42       | 18       | 24     | NW.    | .....               |          | 17.....   | 53       | 25       | 28     | S.     | .....               |          | 17.....   | 47       | 32       | 15     | W.     | .60                 | Rain.    |
| 18.....   | 42       | 22       | 20     | NW.    | .....               |          | 18.....   | 60       | 32       | 28     | S.     | .....               |          | 18.....   | 56       | 36       | 20     | SE.    | .40                 | Rain.    |
| 19.....   | 37       | 25       | 12     | N.     | .....               |          | 19.....   | 62       | 39       | 23     | S.     | .....               |          | 19.....   | 58       | 36       | 22     | SE.    | .....               |          |
| 20.....   | 43       | 24       | 19     | S.     | .....               |          | 20.....   | 63       | 35       | 28     | S.     | .....               |          | 20.....   | 58       | 40       | 18     | S.     | .35                 | Rain.    |
| 21.....   | 53       | 25       | 28     | S.     | .....               |          | 21.....   | 66       | 36       | 30     | S.     | .....               |          | 21.....   | 64       | 35       | 29     | S.     | .....               |          |
| 22.....   | 58       | 29       | 29     | S.     | .....               |          | 22.....   | 60       | 36       | 24     | SE.    | .12                 | Rain.    | 22.....   | 61       | 40       | 21     | SE.    | .04                 | Rain.    |
| 23.....   | 55       | 29       | 26     | S.     | .....               |          | 23.....   | 44       | 34       | 10     | N.     | .20                 | Rain.    | 23.....   | 63       | 33       | 30     | S.     | .....               |          |
| 24.....   | 48       | 28       | 19     | SW.    | .60                 | Rain.    | 24.....   | 46       | 33       | 13     | SE.    | .19                 | Rain.    | 24.....   | 60       | 47       | 13     | SE.    | .....               |          |
| 25.....   | 50       | 35       | 15     | SE.    | .....               |          | 25.....   | 51       | 36       | 15     | SE.    | .....               |          | 25.....   | 68       | 37       | 31     | S.     | .....               |          |
| 26.....   | 47       | 29       | 18     | NW.    | .30                 | Snow.    | 26.....   | 53       | 35       | 18     | SE.    | .58                 | Rain.    | 26.....   | 77       | 50       | 27     | S.     | .....               |          |
| 27.....   | 30       | 23       | 7      | N.     | .20                 | Snow.    | 27.....   | 50       | 36       | 14     | S.     | .03                 | Rain.    | 27.....   | 73       | 43       | 30     | S.     | .....               |          |
| 28.....   | 34       | 50       | 24     | N.     | .....               |          | 28.....   | 47       | 36       | 11     | NW.    | .....               |          | 28.....   | 71       | 40       | 31     | S.     | .....               |          |
| 29.....   | 42       | 12       | 30     | S.     | .....               |          | 29.....   | 55       | 30       | 25     | S.     | .....               |          | 29.....   | 63       | 33       | 30     | SE.    | .....               |          |
| 30.....   | 49       | 28       | 21     | S.     | .....               |          | 30.....   | 55       | 30       | 25     | E.     | .....               |          | 30.....   | 70       | 31       | 39     | S.     | .....               |          |
| 31.....   | 58       | 26       | 32     | S.     | .....               |          |   |          |          |        |        | .....               |          | 31.....   | 66       | 38       | 28     | S.     | .....               |          |
| Total   | 1,176    | 711      | 521    | .....  | 3.13                |          | Total   | 1,573    | 945      | 618    | .....  | 1.93                |          | Total   | 1,976    | 1,557    | 819    | .....  | 2.42                |          |
| Mean.   | 45.2     | 22       | 20.4   | S.     | .....               |          | Mean.   | 52.4     | 31.5     | 20.6   | S.     | .....               |          | Mean.   | 63.6     | 37.6     | 26     | S.     | .....               |          |
| A new maximum thermometer was furnished on the 16th instant to replace one broken, hence incomplete report. |          |          |        |        |                     |          | Maximum, 66° on the 21st instant; minimum, 21° on the 11th instant; mean, 41.9°; total precipitation, 1.93 inches; prevailing winds, south. |          |          |        |        |                     |          | Maximum, 77° on the 26th instant; minimum, 30° on the 2d instant; mean, 50.6°; total precipitation, 2.42 inches; prevailing winds, south. |          |          |        |        |                     |          |

## METEOROLOGICAL REPORT—Continued.

| JUNE, 1900.   |          |          |        |        |                     |          | JULY, 1900.   |          |          |        |        |                     |          | AUGUST, 1900.   |          |          |        |        |                     |          |
|---|----------|----------|--------|--------|---------------------|----------|---|----------|----------|--------|--------|---------------------|----------|---|----------|----------|--------|--------|---------------------|----------|
| Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. | Date.   | Maximum. | Minimum. | Range. | Winds. | Precipita-<br>tion. | Remarks. |
| 1.....  | 73       | 32       | 41     | S.     | 0.02                | Rain.    | 1.....  | 64       | 44       | 20     | S.     | .....               |          | 1.....  | 91       | 43       | 48     | SW.    | .....               |          |
| 2.....  | 78       | 48       | 30     | S.     | .....               |          | 2.....  | 66       | 36       | 30     | SE.    | .....               |          | 2.....  | 93       | 50       | 43     | W.     | .....               |          |
| 3.....  | 76       | 40       | 36     | S.     | .....               |          | 3.....  | 66       | 40       | 26     | N.     | 0.30                | Rain.    | 3.....  | 89       | 55       | 34     | S.     | .....               |          |
| 4.....  | 74       | 43       | 31     | S.     | .....               |          | 4.....  | 66       | 36       | 30     | N.     | .....               |          | 4.....  | 88       | 50       | 38     | E.     | .....               |          |
| 5.....  | 74       | 48       | 26     | S.     | .....               |          | 5.....  | 64       | 47       | 17     | S.     | .....               |          | 5.....  | 72       | 48       | 24     | S.     | 0.06                | Rain.    |
| 6.....  | 72       | 49       | 23     | SE.    | .....               |          | 6.....  | 68       | 38       | 30     | W.     | .....               |          | 6.....  | 78       | 46       | 32     | SW.    | .....               |          |
| 7.....  | 74       | 50       | 24     | S.     | .....               |          | 7.....  | 75       | 35       | 40     | W.     | .....               |          | 7.....  | 80       | 43       | 37     | SW.    | .....               |          |
| 8.....  | 80       | 55       | 25     | S.     | .....               |          | 8.....  | 88       | 43       | 45     | S.     | .....               |          | 8.....  | 82       | 41       | 41     | SW.    | .....               |          |
| 9.....  | 74       | 40       | 34     | NW.    | .....               |          | 9.....  | 82       | 38       | 44     | S.     | .....               |          | 9.....  | 74       | 45       | 29     | NW.    | .....               |          |
| 10.....   | 68       | 30       | 38     | S.     | .....               |          | 10.....   | 86       | 43       | 43     | SE.    | .....               |          | 10.....   | 72       | 46       | 26     | S.     | .....               |          |
| 11.....   | 71       | 40       | 31     | S.     | .....               |          | 11.....   | 87       | 49       | 38     | SE.    | .....               |          | 11.....   | 74       | 44       | 30     | S.     | .....               |          |
| 12.....   | 69       | 42       | 27     | S.     | .....               |          | 12.....   | 80       | 53       | 27     | SW.    | .....               |          | 12.....   | 73       | 41       | 32     | S.     | .....               |          |
| 13.....   | 71       | 43       | 28     | SE.    | 1.00                | Rain.    | 13.....   | 73       | 50       | 23     | S.     | .....               |          | 13.....   | 80       | 38       | 42     | S.     | .....               |          |
| 14.....   | 60       | 43       | 17     | SE.    | .....               |          | 14.....   | 69       | 44       | 25     | S.     | .....               |          | 14.....   | 79       | 47       | 32     | SW.    | .....               |          |
| 15.....   | 72       | 47       | 25     | SE.    | .....               |          | 15.....   | 71       | 47       | 24     | N.     | .....               |          | 15.....   | 82       | 43       | 39     | S.     | .....               |          |
| 16.....   | 70       | 47       | 23     | SE.    | .....               |          | 16.....   | 78       | 40       | 38     | S.     | .....               |          | 16.....   | 79       | 49       | 30     | SW.    | .....               |          |
| 17.....   | 60       | 40       | 20     | SE.    | .....               |          | 17.....   | 83       | 53       | 30     | W.     | .....               |          | 17.....   | 72       | 43       | 29     | S.     | .....               |          |
| 18.....   | 70       | 40       | 30     | S.     | .....               |          | 18.....   | 74       | 48       | 26     | E.     | .....               |          | 18.....   | 78       | 42       | 36     | S.     | .....               | Rain.    |
| 19.....   | 80       | 47       | 33     | S.     | .....               |          | 19.....   | 74       | 32       | 42     | S.     | .....               |          | 19.....   | 76       | 44       | 32     | W.     | .050                |          |
| 20.....   | 85       | 51       | 34     | S.     | .....               |          | 20.....   | 83       | 42       | 41     | S.     | .....               |          | 20.....   | 70       | 39       | 31     | S.     | .....               |          |
| 21.....   | 92       | 55       | 37     | S.     | .....               |          | 21.....   | 86       | 47       | 39     | S.     | .....               |          | 21.....   | 76       | 42       | 34     | SW.    | .....               |          |
| 22.....   | 90       | 55       | 35     | SE.    | .....               |          | 22.....   | 84       | 48       | 36     | S.     | .....               |          | 22.....   | 70       | 40       | 30     | NW.    | .175                | Rain.    |
| 23.....   | 86       | 56       | 30     | S.     | .....               |          | 23.....   | 81       | 53       | 28     | E.     | .....               |          | 23.....   | 61       | 41       | 20     | SW.    | .....               |          |
| 24.....   | 82       | 58       | 24     | NE.    | .15                 | Rain.    | 24.....   | 84       | 47       | 37     | SE.    | .....               |          | 24.....   | 61       | 43       | 18     | SW.    | .....               |          |
| 25.....   | 86       | 30       | 36     | SE.    | .....               |          | 25.....   | 83       | 53       | 30     | SE.    | .....               |          | 25.....   | 65       | 48       | 17     | S.     | .....               |          |
| 26.....   | 81       | 53       | 28     | SE.    | .....               |          | 26.....   | 80       | 55       | 25     | NW.    | .....               |          | 26.....   | 69       | 45       | 24     | S.     | .....               |          |
| 27.....   | 82       | 48       | 34     | S.     | .....               |          | 27.....   | 72       | 48       | 24     | SE.    | .20                 | Rain.    | 27.....   | 78       | 38       | 40     | S.     | .....               |          |
| 28.....   | 90       | 46       | 44     | SE.    | .....               |          | 28.....   | 76       | 36       | 40     | SE.    | .....               |          | 28.....   | 79       | 51       | 28     | S.     | .....               |          |
| 29.....   | 88       | 50       | 38     | S.     | .....               |          | 29.....   | 86       | 43       | 43     | SE.    | .....               |          | 29.....   | 81       | 44       | 37     | SW.    | .....               |          |
| 30.....   | 84       | 60       | 24     | SE.    | .....               |          | 30.....   | 91       | 43       | 48     | SE.    | .....               |          | 30.....   | 77       | 49       | 28     | S.     | .....               |          |
| 31.....   |          |          |        |        | .....               |          | 31.....   | 93       | 50       | 43     | S.     | .....               |          | 31.....   | 76       | 45       | 31     | SW.    | .....               |          |
| Total.  | 2,312    | 1,406    | 906    | .....  | 1.17                |          | Total.  | 2,413    | 1,381    | 1,032  | .....  | .80                 |          | Total.  | 2,375    | 1,383    | 992    | .....  | .285                |          |
| Mean.   | 77       | 46.8     | 30.2   | S.     | .....               |          | Mean.   | 77.84    | 44.55    | 33.29  | S.     | .....               |          | Mean.   | 76.61    | 44.61    | 32     | S.     | .....               |          |
| Maximum, 92° on the 21st instant; minimum, 30° on the 10th instant; mean, 61.9°; total precipitation, 1.17 inches; prevailing winds, south. |          |          |        |        |                     |          | Maximum, 93° on the 31st instant; minimum, 35° on the 7th instant; mean, 61.19°; total precipitation, 0.80 inch; prevailing winds, south. |          |          |        |        |                     |          | Maximum, 93° on the 1st instant; minimum, 38° on the 13th instant; mean, 61.61°; total precipitation, .285 inch; prevailing winds, south. |          |          |        |        |                     |          |



## APPENDIX C.

[Public—No. 62.]

AN ACT To protect the birds and animals in Yellowstone National Park, and to punish crimes in said park, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Yellowstone National Park, as its boundaries now are defined, or as they may be hereafter defined or extended, shall be under the sole and exclusive jurisdiction of the United States; and that all the laws applicable to places under the sole and exclusive jurisdiction of the United States shall have force and effect in said park: *Provided, however,* That nothing in this Act shall be construed to forbid the service in the park of any civil or criminal process of any court having jurisdiction in the States of Idaho, Montana, and Wyoming. All fugitives from justice taking refuge in said park shall be subject to the same laws as refugees from justice found in the State of Wyoming.

SEC. 2. That said park, for all the purposes of this Act, shall constitute a part of the United States judicial district of Wyoming, and the district and circuit courts of the United States in and for said district shall have jurisdiction of all offenses committed within said park.

SEC. 3. That if any offense shall be committed in said Yellowstone National Park, which offense is not prohibited or the punishment is not specially provided for by any law of the United States or by any regulation of the Secretary of the Interior, the offender shall be subject to the same punishment as the laws of the State of Wyoming in force at the time of the commission of the offense may provide for a like offense in the said State; and no subsequent repeal of any such law of the State of Wyoming shall affect any prosecution for said offense committed within said park.

SEC. 4. That all hunting, or the killing, wounding, or capturing at any time of any bird or wild animal, except dangerous animals, when it is necessary to prevent them from destroying human life or inflicting an injury, is prohibited within the limits of said park; nor shall any fish be taken out of the waters of the park by means of seines, nets, traps, or by the use of drugs or any explosive substances or compounds, or in any other way than by hook and line, and then only at such seasons and in such times and manner as may be directed by the Secretary of the Interior. That the Secretary of the Interior shall make and publish such rules and regulations as he may deem necessary and proper for the management and care of the park and for the protection of the property therein, especially for the preservation from injury or spoliation of all timber, mineral deposits, natural curiosities, or wonderful objects within said park; and for the protection of the animals and birds in the park, from capture or destruction, or to prevent their being frightened or driven from the park; and he shall make rules and regulations governing the taking of fish from the streams or lakes in the park. Possession within the said park of the dead bodies, or any part thereof, of any wild bird or animal shall be prima facie evidence that the person or persons having the same are guilty of violating this Act. Any person or persons, or stage or express company or railway company, receiving for transportation any of the said animals, birds, or fish so killed, taken, or caught shall be deemed guilty of a misdemeanor, and shall be fined for every such offense not exceeding three hundred dollars. Any person found guilty of violating any of the provisions of this Act or any rule or regulation that may be promulgated by the Secretary of the Interior with reference to the management and care of the park, or for the protection of the property therein, for the preservation from injury or spoliation of timber, mineral deposits, natural curiosities or wonderful objects within said park, or for the protection of the animals, birds and fish in the said park, shall be deemed guilty of a misdemeanor, and shall be subjected to a fine of not more than one thousand dollars or imprisonment not exceeding two years, or both, and be adjudged to pay all costs of the proceedings.

That all guns, traps, teams, horses, or means of transportation of every nature or description used by any person or persons within said park limits when engaged in killing, trapping, ensnaring, or capturing such wild beasts, birds, or wild animals shall be forfeited to the United States, and may be seized by the officers in said park and held pending the prosecution of any person or persons arrested under charge of violating the provisions of this Act, and upon conviction under this Act of such person or persons using said guns, traps, teams, horses, or other means of transportation such forfeiture shall be adjudicated as a penalty in addition to the other punishment provided in this Act. Such forfeited property shall be disposed of and accounted for by and under the authority of the Secretary of the Interior.

SEC. 5. That the United States circuit court in said district shall appoint a commissioner, who shall reside in the park, who shall have jurisdiction to hear and act upon all complaints made, of any and all violations of the law, or of the rules and regulations made by the Secretary of the Interior for the government of the park, and for the protection of the animals, birds, and fish and objects of interest therein, and for other purposes authorized by this Act. Such commissioner shall have power, upon sworn information, to issue process in the name of the United States for the arrest of any person charged with the commission of any misdemeanor, or charged with the violation of the rules and regulations, or with the violation of any provision of this Act prescribed for the government of said park, and for the protection of the animals, birds, and fish in the said park, and to try the person so charged, and, if found guilty, to impose the punishment and adjudge the forfeiture prescribed. In all cases of conviction an appeal shall lie from the judgment of said commissioner to the United States district court for the district of Wyoming, said appeal to be governed by the laws of the State of Wyoming providing for appeals in cases of misdemeanor from justices of the peace to the district court of said State; but the United States circuit court in said district may prescribe rules of procedure and practice for said commissioner in the trial of cases and for appeal to said United States district court. Said commissioner shall also have power to issue process as hereinbefore provided for the arrest of any person charged with the commission of any felony within the park, and to summarily hear the evidence introduced, and, if he shall determine that probable cause is shown for holding the person so charged for trial, shall cause such person to be safely conveyed to a secure place for confinement, within the jurisdiction of the United States district court in said State of Wyoming, and shall certify a transcript of the record of his proceedings and the testimony in the case to the said court, which court shall have jurisdiction of the case: *Provided*, That the said commissioner shall grant bail in all cases bailable under the laws of the United States or of said State. All process issued by the commissioner shall be directed to the marshal of the United States for the district of Wyoming; but nothing herein contained shall be construed as preventing the arrest by any officer of the Government or employee of the United States in the park without process of any person taken in the act of violating the law or any regulation of the Secretary of the Interior: *Provided*, That the said commissioner shall only exercise such authority and powers as are conferred by this Act.

SEC. 6. That the marshal of the United States for the district of Wyoming may appoint one or more deputy marshals for said park, who shall reside in said park, and the said United States district and circuit courts shall hold one session of said courts annually at the town of Sheridan in the State of Wyoming, and may also hold other sessions at any other place in said State of Wyoming or in said National Park at such dates as the said courts may order.

SEC. 7. That the commissioner provided for in this Act shall, in addition to the fees allowed by law to commissioners of the circuit courts of the United States, be paid an annual salary of one thousand dollars, payable quarterly, and the marshal of the United States and his deputies, and the attorney of the United States and his assistants in said district, shall be paid the same compensation and fees as are now provided by law for like services in said district.

SEC. 8. That all costs and expenses arising in cases under this Act, and properly chargeable to the United States, shall be certified, approved, and paid as like costs and expenses in the courts of the United States are certified, approved, and paid under the laws of the United States.

SEC. 9. That the Secretary of the Interior shall cause to be erected in the park a suitable building to be used as a jail, and also having in said building an office for the use of the commissioner, the cost of such building not to exceed five thousand dollars, to be paid out of any moneys in the Treasury not otherwise appropriated upon the certificate of the Secretary as a voucher therefor.

SEC. 10. That this Act shall not be construed to repeal existing laws conferring upon the Secretary of the Interior and the Secretary of War certain powers with reference to the protection, improvement, and control of the said Yellowstone National Park.

Approved, May 7, 1894.



## APPENDIX D.

## RULES AND REGULATIONS OF THE YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,  
*Washington, D. C., April 1, 1899.*

The following rules and regulations for the government of the Yellowstone National Park are hereby established and made public pursuant to authority conferred by section 2475, Revised Statutes United States, and the act of Congress approved May 7, 1894:

(1) It is forbidden to remove or injure the sediments or incrustations around the geysers, hot springs, or steam vents; or to deface the same by written inscription or otherwise; or to throw any substance into the springs or geyser vents; or to injure or disturb in any manner or to carry off any of the mineral deposits, specimens, natural curiosities, or wonders within the park.

(2) It is forbidden to ride or drive upon any of the geyser or hot spring formations or to turn loose stock to graze in their vicinity.

(3) It is forbidden to cut or injure any growing timber. Camping parties will be allowed to use dead or fallen timber for fuel.

(4) Fires shall be lighted only when necessary, and completely extinguished when not longer required. The utmost care should be exercised at all times to avoid setting fire to the timber and grass, and anyone failing to comply therewith shall be peremptorily removed from the park.

(5) Hunting or killing, wounding, or capturing of any bird or wild animal, except dangerous animals, when necessary to prevent them from destroying life or inflicting an injury, is prohibited. The outfits, including guns, traps, teams, horses, or means of transportation used by persons engaged in hunting, killing, trapping, ensnaring, or capturing such birds or wild animals, or in possession of game killed in the park under other circumstances than prescribed above, will be forfeited to the United States, except in cases where it is shown by satisfactory evidence that the outfit is not the property of the person or persons violating this regulation and the actual owner thereof was not a party to such violation. Firearms will only be permitted in the park on written permission from the superintendent thereof. On arrival at the first station of the park guard, parties having firearms will turn them over to the sergeant in charge of the station, taking his receipt for them. They will be returned to the owners on leaving the park.

(6) Fishing with nets, seines, traps, or by the use of drugs or explosives, or in any other way than with hook and line, is prohibited. Fishing for purposes of merchandise or profit is forbidden by law. Fishing may be prohibited by order of the superintendent of the park in any of the waters of the park, or limited therein to any specified season of the year, until otherwise ordered by the Secretary of the Interior.

(7) No person will be permitted to reside permanently or to engage in any business in the park without permission, in writing, from the Department of the Interior. The superintendent may grant authority to competent persons to act as guides and revoke the same in his discretion, and no pack trains shall be allowed in the park unless in charge of a duly registered guide.

(8) The herding or grazing of loose stock or cattle of any kind within the park, as well as the driving of such stock or cattle over the roads of the park, is strictly forbidden, except in such cases where authority therefor is granted by the Secretary of the Interior.

(9) No drinking saloon or barroom will be permitted within the limits of the park.

(10) Private notices or advertisements shall not be posted or displayed within the park, except such as may be necessary for the convenience and guidance of the public, upon buildings on leased ground.

(11) Persons who render themselves obnoxious by disorderly conduct or bad behavior, or who violate any of the foregoing rules, will be summarily removed from the park, and will not be allowed to return without permission, in writing, from the Secretary of the Interior or the superintendent of the park.

Any person who violates any of the foregoing regulations will be deemed guilty of a misdemeanor, and be subjected to a fine as provided by the act of Congress approved May 7, 1894, "to protect the birds and animals in Yellowstone National Park, and to punish crimes in said park, and for other purposes," of not more than \$1,000, or imprisonment not exceeding two years, or both, and be adjudged to pay all costs of the proceedings.

E. A. HITCHCOCK,  
*Secretary of the Interior.*

## APPENDIX E.

## INSTRUCTIONS TO PERSONS TRAVELING THROUGH YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,  
OFFICE OF SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK,  
*Mammoth Hot Springs, Wyo., April 1, 1899.*

The following instructions for the information and guidance of parties traveling through the Yellowstone Park, having received the approval of the Secretary of the Interior, are published for the benefit of all concerned:

(1) *Fires*.—The greatest care must be exercised to insure the complete extinction of all camp fires before they are abandoned. All ashes and unburned bits of wood must, when practicable, be thoroughly soaked with water. When fires are built in the neighborhood of decayed logs, particular attention must be directed to the extinguishment of fires in the decaying mold. Such material frequently smolders for days and then breaks out into dangerous conflagration. Fire may also be extinguished where water is not available by a complete covering of earth well packed down.

(2) *Camps*.—No camp will be made at a less distance than 100 feet from any traveled road. Blankets, clothing, hammocks, or any other article liable to frighten teams must not be hung at a nearer distance than this to the road. The same rule applies to temporary stops, such as for feeding horses or for taking luncheon.

Camp grounds must be thoroughly cleaned before they are abandoned, and such articles as tin cans, bottles, cast-off clothing, and other debris must be either buried or taken to some place where they will not offend the sight.

(3) *Bicycles*.—Many of the horses driven in the park are unused to bicycles and liable to be frightened by them. The greatest care must therefore be exercised by their riders. In meeting teams riders will always dismount and stand at the side of the road—the lower side if the meeting be on a grade. In passing teams from the rear riders will ring their bell as a warning, and inquire of the driver if they may pass. If it appear from the answer that the team is liable to be frightened, they may ask the driver to halt his team and allow them to dismount and walk past.

Riders of bicycles are responsible for all damages caused by failure to properly observe these instructions.

(4) *Fishing*.—All fish less than 6 inches in length should at once be returned to the water with the least damage possible to the fish. No fish should be caught in excess of the number needed for food.

(5) *Dogs*.—When dogs are taken through the park they must be prevented from chasing the animals and birds or annoying passers-by. To this end they must be carried in the wagons or led behind them while traveling, and kept within the limits of the camps when halted. Any dog found at large in disregard of this section will be killed.

(6) *Grazing animals*.—Only animals actually in use for purposes of transportation through the park can be grazed in the vicinity of the camps. They will not be allowed to run over any of the formations, nor near to any of the geysers or hot springs; neither will they be allowed to run loose in the road.

(7) *Miscellaneous*.—The carving or writing of names or other things on any of the mileposts or signboards, or any of the seats, railings, or other structures, or on the trees, will not be permitted.

Persons are not allowed to bathe near any of the regularly traveled roads in the park without suitable bathing clothes.

(8) Willful disregard of these instructions will result in the ejection of the offending person or persons from the park.

OSCAR J. BROWN,  
*Captain, First U. S. Cavalry, Acting Superintendent Yellowstone National Park.*



YELLOWSTONE NATIONAL PARK LIBRARY



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Note - Strip of about 2 miles on north (Montana) and about the same on west (Montana & Idaho) not included in map.

Roads completed  
Roads proposed

Roads and trails are indicated as follows:  
Roads under construction  
Roads available but not now used by Park Transportation Companies

Trails  
Old wagon trails that might be used for saddle trails  
Re-commissioned during Sept. Month of October 1900

Snowshoe Calves  
Stations

Scale 100,000  
Contours Interval 100 feet















Holdup 1897 p 7



